ASTRONOMICAL

AND

METEOROLOGICAL OBSERVATIONS

MADE AT

THE UNITED STATES NAVAL OBSERVATORY

DURING

THE YEAR 1864.

PUBLISHED BY AUTHORITY OF

THE HON. SECRETARY OF THE NAVY.

CAPTAIN J. M. GILLISS, U. S. N., SUPERINTENDENT.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1866.

NOTE.

The Astronomical and Meteorological Observations of this volume were made under the direction of my predecessor, Captain Gilliss; the Introduction has been prepared by Mr. Ferguson, Assistant Astronomer, and the Appendix by Professor Newcomb.

C. H. DAVIS,
Rear-Admiral, Superintendent.

INDEX.

	Page
NOTE	2
INTRODUCTION	v
APPENDIX	XXXIX
Observations with the Transit Instrument	1
Mural Circle	105
Prime Vertical Transit Instrument	193
Equatorial	203
Observations of Occultations of Stars by the Moon	304
Mean Right Ascensions of Stars Observed with the Transit Instrument	305
Mean Declinations of Stars Observed with the Mural Circle	341
Right Ascensions and Declinations of the Sun, Moon, and Planets	363
Right Ascensions and Declinations of Stars, Asteroids, and Comets, Observed with the Equatorial	377
Mean Places for 1860.0 of Stars of Comparison used in Observations with the Equatorial	385
Right Ascension of Stars of Comparison determined by Transit Instrument	390
Constants for the Reduction of Stars	393
Catalogue of Stars Observed in 1864	401
Meteorological Observations for 1864:	
Introduction	443
Barometric Pressure	451
Dry Thermometer	458
Wet Thermometer	462
Sun Thermometer	464
Wind and Weather	468
Mean Monthly and Annual Results	493
List of Publications presented to Library	499
Catalogue of the Library	505
Errata	524

INTRODUCTION.

In August, 1842, a law was enacted authorizing the erection of a "Depot of Charts and Instruments," and the building was completed in September, 1844. In December of 1854 the honorable Secretary of the Navy directed that it should thereafter be styled the "United States Naval Observatory and Hydrographical Office."

The enacting law authorized the President of the United States to locate the building upon any public ground within the District of Columbia not otherwise in use; and the site assigned by him is the square originally designed in the plan of the city of Washington for a National University. It is on the north bank of the river Potomac, in the southwestern part of the city, and contains about seventeen acres, of which the highest point is one hundred feet above the river, the ground sloping thereto both on the south and on the west sides. It is enclosed on the east, south, and west sides by a brick wall, and on the remaining one by a picket fence.

The Observatory buildings consist of a central edifice fifty feet square, with wings to the east, west, and south. The central building is two stories and a basement high, with a parapet and balustrade of wood round the top, and is surmounted by a revolving dome twenty-three feet in diameter, which rests on a circular wall, built to a height of seven feet above the highest part of the roof. The east and west wings were each originally erected twenty-six feet six inches long, twenty-one feet wide, and eighteen feet high; but in the year 1848 the former was extended in length twenty-four feet, so as to connect it with the dwelling of the Superintendent, built directly east of the Observatory during the preceding year. The south wing is separated from the main building by a passage-way ten feet square. It is forty-one feet long, and of the same breadth and height as the others, having, in 1846, been extended twenty feet for the accommodation of a circle in the Prime Vertical. The width and height of the addition are the same as those of the old portion.

From observations, described in the previous volumes, particularly in that for 1863, the latitude of the Observatory has been taken at 38° 53′ 39″.25 north, and its longitude at 5h. 8m. 11s.0 west from Greenwich. These values have been used in all the reductions up to the present time. Subsequent observations, now in process of discussion, may augment each of these ordinates, but the change will not go beyond the first decimal of the second.

There are four rooms on each floor of the central building. One is occupied as a library room and office for the Superintendent; two are filled with charts, properly arranged, for distribution to ships of the navy; and the remainder, both on the first and second floors, are assigned to the assistants.

A clock, by Kessel, of Altona, and barometer, by Green, of New York, are placed in the office of the Superintendent. The clock, which is an excellent one, has not hitherto been used in connexion with any instrument, but merely as a standard with which the others have been compared. Drawings of the barometer will be found in the volume for 1862, and a description of the instrument in the introduction to the Meteorological Observations.

The Meridian Transit Instrument was made by Messrs. Ertel & Son, at Munich, with an object-glass of 5.3 inches aperture, and focal length of about 86 inches. The lens was refigured and repolished by Messrs. Alvan Clark & Sons in the autumn of 1862, with decided improvement both in achromatism and definition. Stars wholly invisible during daylight prior to the change can now be observed with great satisfaction; but, except on very rare occasions, its power under ordinary illumination does not extend beyond stars of the 10th magnitude. The axis of its telescope is 42 inches long between the bearing points of the pivots. There are finder circles of 8 inches diameter near the eye-end of the telescope, a striding level, and a reversing carriage of the ordinary construction. Until September 2d this instrument had been placed in the west room of the building, and was mounted on monoliths of granite split from the same block, and wholly isolated from the floors of the building. At the date last mentioned it was taken down, and with the piers removed to the place in the east room, until then occupied by the Meridian Circle of Ertel, the latter instrument having been previously removed to make room for it. These changes became necessary in order to prepare the west room for the reception of the Transit Circle of Pistor & Martins, then shortly expected to arrive. Up to September 2d there had been two clocks in the west room. The one generally in use was made for the old Naval Observatory by Parkinson & Frodsham, of London. It is supported against a massive granite pier, and has all necessary adjustments for verticality. It has Graham's dead-beat escapement with jewelled pallets; mercurial compensated pendulum; the usual means for altering the length of the rod and putting it in beat; a divided scale screwed to the back of the case, and an index attached to the base of the stirrup that supports the mercury cylinder. The extremity of the index is a delicate knife-edge in the plane of vibration of the pendulum. This knife-edge touches at each oscillation a globule of mercury that is supported on a slender bracket projecting from the centre of the divided scale. There are wires from the mercury globule to a galvanic battery, and a registering apparatus. Since changing its mode of support in 1862 from the side to the front of the pier, its rate has been more satisfactory, but there remain inequalities not accounted for by defective compensation, which are probably due to fluctuations in the strength of the galvanic current, the pendulum moving slower when the current is most active or strongest.

The other clock was designed by Dr. Locke, made by Messrs. Howard & Davis, and put up in 1850. It is secured to the west face of the pier originally erected for the Mural Circle, and is described in the volume for 1846.

The registering apparatus used with these clocks was of two kinds, viz: A Morse fillet of indefinite length unwound from a cylinder by clock-work. Two records are made upon the fillet by steel points, one showing the beats of the pendulum, and the other the instants of observation struck by the observer with the signal key. The other register is a brass cylinder two feet in length and eight inches in diameter, the motion of which is regulated by a centrifugal friction governor, so that it revolves once per minute. Its recording pen is attached to a carriage the rate of motion of which is controlled by a pendulum. Additional information respecting these instruments is given in connexion with the transit observations.

Both these clocks were taken down at the same time with the Transit Instrument, and the one made by Howard & Davis was changed to show mean time, and set up in the Chronometer room.

The Mural Circle, made by Troughton and Simms, is in the east wing, and is mounted upon the east face of a sandstone pier. It is five feet in diameter, and connected with the central portion by twelve radii that are strengthened on their backs by edge bars and united midway by a second concentric circle. To secure homogeneity, if possible, all the preceding portions constitute parts of the same cast. A band of gold and one of platina are inlaid upon the rim perpendicular to the plane of the circle. The former band is divided into spaces of $5'$, and the latter to spaces of 1°, each of which is numbered. The minute reading is by means of six equidistant microscopes secured to the face of the pier, and which are illuminated through apertures in the same from a gas lamp placed to the west of it. The instrument has a conical axis three feet long. Under the eastern end of the latter there are friction rollers connected with rods that pass between

the circle and the face of the pier, and thence over the top to counterpoises within a cavity of the pier. Its telescope is a cylinder secured to the circle both at the centre and near the extremities. The object-glass has a diameter of 4.0 inches, and was originally of five feet focal length. In 1862, the object-glass not being entirely satisfactory, was modified by Messrs. Alvan Clark & Sons, of Cambridgeport, by which its achromatism and definition have both been improved. The eye-piece is the work of Mr. John Clark, the machinist of the Observatory, and is described in the volume for 1862.

The clock of the east room is placed to the south of and equidistant from the two instruments. It was made by Mr. Charles Frodsham, of London, and is similar in its general construction and support to that of the west wing. Instead of a knife-edge, its pendulum index terminates in a sharp, two-pronged fork, or crutch, perpendicular to the plane of vibration, and at each oscillation these forks impinge simultaneously upon globules of mercury in separate receptacles of a narrow ledge which rests on a part of the clock case.

Each mercury globule is connected with one pole of a galvanic battery, and when the pendulum is perpendicular the circuit is closed through the crutch, which forms the shortest conductor between them. Little use having been made of the Meridian Circle of Ertel for several years, in 1862 the recording apparatus, furnished with the Locke clock, was transferred to the west wing. The Mural Circle clock performs satisfactorily.

The barometer is a Newman standard No. 75. It is mounted against the back of the clock pier. Its tube has a diameter of 0.582 inch, and the reading of the mercury column by Vernier is to 0.002 inch. As the oxidized mercury of its cistern had greatly affected the upper part of the tube, early in 1862 the instrument was taken down and cleaned by Mr. James Green. After being remounted, simultaneous comparisons were made with the standard in the Superintendent's room, the observers being interchanged to eliminate personal peculiarities of reading. A mean of ten comparisons, corrected for capillarity and temperature, shows that Newman No. 75 requires a further correction—0.0001 inch. Additional information respecting barometers of the latter construction will be found in the introduction to the Meteorological Observations.

The thermometers used in connexion with the circle observations are specified in the account of those observations. A table of corrections for recorded readings of the air (external) thermometer is there given.

The other room of the east wing is wholly devoted to nautical and other instruments required in naval operations. Cases to contain the chronometers and shelves, &c., for the other instruments, are so disposed as to accommodate the largest number and to facilitate their examination or distribution. The chronometers are daily compared with a clock in the southwest corner of the room, and at the end of each month their rates are transferred from the comparison papers to record books. The latter instrument was made for the old Depot of Charts and Instruments, by Messrs. Parkinson & Frodsham, and is identical in construction with the clock of the west wing. It is firmly held against a granite pier by strong braces. To facilitate and render the instants of comparison more certain when noise causes the clock-beat to be inaudible, a tilt-hammer and electro-magnet are connected by wires with a battery, and the clock pendulum through a mercury globule. When the circuit is closed, a sharp ringing sound is emitted by the hammer at each vibration of the pendulum. The rate of this clock is more uniform than that of any other in the establishment, Kessel's excepted.

The Transit Instrument in the Prime Vertical is in the north room of the south wing. Its telescope has an aperture of 4.85 inches, with a focal length of 78 inches. It is attached to one extremity of an axis 42 inches long, the other extremity of which carries a counterpoise. The pivots of the axis are hollow cylinders of fine steel 3.5 inches in diameter. Their re-grinding by Mr. William Würdemann was mentioned in the volume for 1861. The telescope and its counterpoise are outside of the supporting pier, but their weights are transferred to the bearing points of the Y's by levers and counterpoises within the pivots and axis. To obviate the necessity for touching the telescope tube either during an observation or for reversal, Mr. Clark, the machinist, has inserted a pair of iron rods in the corners of the cube near the telescope pivot.

These rods converge towards the eye-end, where they are united in a handle of convenient length. By this arrangement it is believed that a better general agreement of results and greater accuracy have been obtained. The pier upon which the instrument is mounted is a wide monolith of which the central portion has been cut out for the accommodation of a reversing carriage of special construction.

The clock for this room was made by Charles Frodsham, and is mounted against a granite pier erected to the east of the Prime Vertical Transit Instrument. Instead of glass for the mercury of its pendulum cylinder, steel is used, the pendulum rod being screwed into a cap which covers the top of the cylinder. The pendulum index has a single knife-edge, and its divided scale supports a bracket with a mercury globule like the clock of the west wing. There being no recording apparatus for this room, and the clock-beat being faint, a tilt-hammer and battery were put up, to be used when high winds or other noise should make it advisable.

The extreme south room has been fitted up as the library, which, since the death of Professor Hubbard, has been in charge of Professor Harkness. It is the duty of the librarian to make a record of all books received, and to render proper acknowledgment for them.

The Equatorial Instrument under the dome is mounted upon a massive granite pedestal, which rests upon a hollow conical pier. The foundation for the pier is solid masonry 10½ feet thick, with a diameter of 15 feet. The instrument was made by Merz & Mahler; the object-glass having an aperture of 9.6 inches, and focal length of 14 feet 3 inches. Its hour and declination circles are respectively 15 and 21 inches in diameter. Its *finder* has an object-glass 2.6 inches in diameter and 32 inches focal length. The repeating filar micrometer, of Fraunhofer's pattern, is provided with both external divided scale and a comb at one side of the field, by which the complete revolutions may be read. The comb has a deeper interval at every fifth tooth, and every tooth represents one revolution. The instrument is perfectly equiposed in every position, and the telescope may be kept in motion by an endless screw that works in grooves of the hour circle, the time of revolution of which is regulated by a clock with centrifugal pendulum. A cylinder chronographic apparatus, with Bond's spring governor, connected with a battery and the clock of the south wing, is used for registering the instants of observation.

The object-glass being slightly under-corrected for color, and its performance not equalling others of like dimensions, in 1862 it was placed in the hands of Messrs. Clark & Sons to refigure. They increased the focal length about an inch, corrected the defective achromatism, and certainly improved the definition; but the flint disk is not a perfect one, and no amount of labor would ever make it an object-glass of the first class.

In the dome also is kept a comet-seeker by Merz & Mahler. Its object-glass has an aperture of 3.9 inches and focal length of 32 inches. The instrument is equatorially mounted on a stout shaft of brass, resting upon a tripod which has the ordinary adjusting screws, and the telescope is perfectly balanced in every position. It has hour and declination circles, each of five inches diameter, the divisions of which may be read to 4*s*. or 1′ by means of opposite verniers. The present object-glass was made by Messrs. Alvan Clark & Sons. Even during the brightest moonlight, the luminous boundaries of the annular nebulæ in Lyræ are admirably well shown by it. For greater convenience of the observer with the comet-seeker, the roof of the main building is covered with a level grated platform. There are substantial supports for instruments outside of the rotundo, from one or the other of which all parts of the heavens may be seen.

For the purpose of giving correct time to the city, a staff has been placed on top of the dome, and a large but light ball is hoisted thereon at ten minutes before mean noon of every day, except Sundays and the national holidays. After the ball is up, the pulley is connected with an electro-magnetic battery, and at the instant of noon the circuit is broken by the Assistant in the chronometer room.

A more detailed account of the buildings and instruments will be found in "*Report on the plan and construction of the Depot of Charts and Instruments, with a description of the instruments, &c.*; Washington,

1845;" and in the volume of "*Astronomical Observations made during the year* 1845 *at the National Observatory:* Washington, 1846."

The general supervision of the Observatory is intrusted to the Bureau of Navigation, of which Rear-Admiral Charles H. Davis is chief. In 1864 its *personnel* remained as in the previous year, with the following exceptions: the appointment of Mr. Mark H. Doolittle as aid, which occurred April 20, and the resignation of Mr. Moses Springer, which took place in the following July. In December, Mr. Charles Thirion was employed as computer, under special authority from the Secretary of the Navy.

The department of Charts is in charge of Commander W. B. Whiting and Professor Pendleton; the former keeping the records and accounts, while to the latter is intrusted the duty of selecting and preparing for despatch the charts and publications necessary for ships at sea.

The department of Nautical Instruments was this year confided to Mr. John R. Eastman, until the 20th of October, when it passed into the hands of Mr. J. A. Rogers. The officer in charge of this department is assisted by Mr. John Clark, the machinist. His duties involve the examination and inspection of new instruments, or those recently purchased; the selection of the nautical instruments for vessels fitting for sea; a daily comparison of all chronometers belonging to the government and on deposit for trial; the dropping of the time ball at noon; and the accounts relating to the receipts and expenditures of instruments at the several naval stations. The Meteorological Journal is also under his care, and is daily examined and verified by him.

The routine of Astronomical observation has continued the same as in the previous years.

The Equatorial Instrument has remained in charge of Mr. James Ferguson, the Assistant Astronomer. Observations have been made throughout the year by him and Professor Asaph Hall, on alternate nights.

Professor M. Yarnall has directed the observations with the Meridian Transit, in which he has been assisted in the earlier part of the year, or until October, by Mr. Rogers, and subsequently, or to the end of the year, by Mr. Eastman.

The Mural Circle has been in charge of Professor Newcomb, assisted by Professor Harkness and Mr. Doolittle.

The Prime Vertical Transit has been used solely in observations of α Lyræ, the observers being Professors Newcomb and Harkness.

Mr. Thomas Harrison, as both secretary and disbursing officer, has charge of the official correspondence and accounts of the establishment.

The watchmen are Mr. Thomas Hayes and Mr. Dennis Horigan, who, in addition to their appropriate duties as wardens of the building and public properties, are also required to keep the Meteorological Journal of the Observatory, under supervision of the proper officer.

THE MERIDIAN TRANSIT INSTRUMENT.

This instrument was employed during the year as follows:

With rare exceptions from accidental causes, the Moon was observed at every visible transit, and, in connection with it, some or all of the Moon-culminating stars of the British Nautical Almanac. Observations of the Sun, and the planets Venus and Mercury, were omitted only on Sundays and exceptional cases like the preceding.

Mars, Jupiter, Saturn, Uranus, and Neptune, were frequently observed, and Ceres, Juno, Vesta, Hebe, Iris, Victoria, Eunomia, Psyche, Thetis, Melpomene, Fortuna, Euterpe, Amphitrite, and Fides, were observed one or more times. The other objects of observation were: Stars used for comparison by the Equatorial in this or former years; stars of Lacaille's Catalogue north of — 45°; stars whose declinations had been determined with the Mural Circle, either in its special work, or in the mural zones observed prior to 1850; the standard circumpolar and time stars of Dr. B. A. Gould, published in a report to the Superintendent of the United States Coast Survey, and a few others not properly to be classed in either of these enumerations.

The transit system consists of five groups or tallies of vertical threads, and in addition to these there are three vertical threads, movable by a micrometer screw, and two stationary horizontal ones. With the clamp end of the axis to the east, the tallies are named in the order of the transit of stars above the pole A, B, C, D, and E; and E, D, C, B, and A, when the clamp is to the west.

The tally over which an object has been observed is shown by inspection of the intervals between the transits.

The individual threads of each tally are designated by the numbers 1, 2, 3, 4, 5, for A, C, and E; and 1, 2, 3, for B and D respectively. One vertical thread, A_0, is outside of tally A, and another, E_6, is outside of E. Those two with A_5, B_1, C_3, D_3, and E_1, constitute a system over which transits with eye and ear may be conveniently observed.

From a mean of the observed transits of Polaris, δ Ursæ Minoris, and 51 Cephei, combined with careful micrometrical measurements, the equatorial intervals between each thread and the mean of B_1, B_2, B_3, C_1, C_2, C_3, C_4, C_5, D_1, D_2, D_3, were found to be as follows; the notation corresponding to clamp east:

EQUATORIAL INTERVALS.

Thread.	Interval.	Thread.	Interval.	Thread.	Interval.	Thread.	Interval.	Thread.	Interval.
	s.		s.		s.		s.		s.
A_1	+ 35.931			C_1	+ 2.230	D_1	— 11.834	E_1	— 30.192
A_2	34.552			C_2	1.273	D_2	13.014	E_2	32.623
A_3	33.347	B_1	+ 14.931	C_3	+ 0.056	D_3	— 15.039	E_3	33.845
A_4	32.179	B_2	12.998	C_4	— 1.141			E_4	35.134
A_5	+ 29.856	B_3	+ 11.720	C_5	— 2.180			E_5	— 36.444

The interval adopted for $A_0 = 44s.943$, and for $E_6 = 44s.947$.

Except in a very few cases, when the registering apparatus was out of order, the times of transit of all objects more than 5° distant from the pole were recorded by means of an electro-chronograph. The excepted cases are mentioned in the foot-notes to the printed observations.

It has been stated that the index to the clock pendulum is wrought to an extremely slender knife-edge, parallel to the direction of its motion, and that at every vibration of the pendulum this knife-edge touches the surface of a globule of mercury, which is placed on a bracket projecting from the centre of the index scale. The pendulum is insulated and connected with one pole of a galvanic battery, the globule being connected with the other pole by a circuit passing through a key-board for the use of the observer. The latter portion of the circuit is closed or broken at pleasure by moving a wedge, which presses together two springs within the key-board, or suffers them to separate when it is withdrawn. A second circuit, part of which is common to the first, passes through the same springs, and also through another on the outside of the key-board, where it is permanently broken, except when the latter spring is pressed against the board. In the latter part of the year the circuit was closed by causing a small bar carried by the pendulum to impinge upon two small platinum levers, poles of the battery, which were thus brought into the galvanic circuit.

This change causing the clock to stop repeatedly, it became necessary to increase the clock weight, after which it performed as usual. The observations of the year were recorded by means of the cylinder-register. Its pen is a small globe of thin glass drawn to a fine point on one side and with a filling tube on the other. A minute aperture in the point permits the flow of chemical ink without accessory apparatus, and the pen rests continuously upon the paper. Whilst the cylinder is in motion, under control of a pendulum, the carriage which holds the pen advances about $\frac{1}{10}$ of an inch per minute, and as the cylinder makes one revolution in the same time, the sheet of paper enveloping the cylinder permits continuous observation during nearly four and a half hours.

Whenever the galvanic current from a single Smee's battery passes an electro-magnet, the pen moves laterally, its records or signals being in the form of wedges, from the general line as a base. When the temperature of the observing room is below 32° Fahrenheit, the ordinary chemical ink will not flow. Resort is then had to recording paper washed with a weak solution of sulphate of iron, the pen being filled with a preparation of tannic acid and alcohol.

INSTRUMENTAL ERRORS.

Aided by a collimating eye-piece, the errors of level and collimation were obtained by reversing the instrument over a basin of mercury, and measuring with the micrometer-screw of the eye-piece the distance between the central thread and its image seen in the mercury. If we represent by $2\,\Delta$ the distance of the central thread west of its image when the clamp-end of the axis is east; by $2\,\Delta^1$ the same quantity when the clamp is west; by p the excess of the radius of the clamp-pivot divided by the distance between the pivots; by r the reduction of the central thread to the mean of the system B_1, B_2, B_3, C_1, C_2, C_3, C_4, C_5, D_1, D_2, D_3, in each tally; and by a the correction for diurnal aberration $= -0s.016$ in this latitude, we have:

$$c = \tfrac{1}{2}(\Delta - \Delta^1) - p + r - a, \text{ for clamp east.}$$
$$c = -\tfrac{1}{2}(\Delta - \Delta^1) + p + r - a, \text{ for clamp west.}$$
$$b = -\tfrac{1}{2}(\Delta + \Delta^1) - p, \text{ for clamp east.}$$
$$b = -\tfrac{1}{2}(\Delta + \Delta^1) + p, \text{ for clamp west.}$$

From the mean of a large number of observations made with the spirit-level during the years 1858, 1859, and 1861, the concluded value of p was $-0s.025$, with a probable error of $\pm\ 0s.003$; the numerical value of r was $+\ 0s.056$.

All the observations for determining the errors of collimation and their results are given in the subjoined table, in which the value r of a revolution of the micrometer is $1s.5865$. When great changes occur in the values of c between consecutive dates, they have been caused by adjustment with the collimating screws.

Date.	2 Δ	2 Δ¹	c.	Date.	2 Δ	2 Δ¹	c.
h.	r.	r.	s.	h.	r.	r.	s.
January 12, 4	+ 0.06	— 0.08	+ 0.009	August 10, 19	+ 0.12	+ 0.52	— 0.207
February 4, 7	0.06	0.07	0.005	24, 22	+ 0.02	+ 0.06	0.063
25, 2	0.05	0.19	0.049	September 2, 20	— 0.10	— 0.09	0.051
March 17, 9	0.10	0.21	0.077	October 24, 0	+ 0.09	+ 0.31	0.168
April 6, 13	0.18	0.15	0.085	29, 2	— 0.50	— 0.28	0.168
28, 14	0.06	0.33	0.109	November 10, 2	0.48	— 0.17	0.204
May 17, 15	0.22	0.14	0.097	17, 19	— 0.46	+ 0.31	0.388
June 7, 16	0.12	0.29	0.117	21, 18	+ 0.03	— 0.12	— 0.020
July 2, 20	0.25	0.29	0.169	December 6, 3	0.00	— 0.27	+ 0.028
8, 17	0.23	0.29	0.161	27, 22	+ 0.50	+ 0.40	— 0.040
August 5, 21	+ 0.22	— 0.45	+ 0.221				

When observations to determine the value of c are tolerably accordant on successive dates, a mean is adopted for the whole period of such accordance; and where the differences are too great to permit inference that they may be due to errors of observation, the changes are assumed to have been uniformly progressive. The values used in the reductions are stated at the bottom of each page of the printed observations.

The distance which the line of collimation passes from the pole, and the point in which the meridian intersects the equator, are used instead of errors of level and azimuth. When the error of collimation is known, the first distance is directly obtained by observations of stars very near the pole, and may be represented by n. The second distance is determined by combining the value of n with the error of the level. Designating the latter by b, the latitude of the Observatory by φ, and representing this second distance by m, we obviously have

$$m = -n \tan \varphi + b \sec \varphi;$$

and the correction applicable to the observed transit of any star to reduce it to the meridian will be obtained by the formula

$$\text{Correction} = m + n \tan \delta + c \sec \delta,$$

in which δ represents the apparent declination of the star.

An approximate clock error having been first obtained from one or more equatorial stars, the value of n was determined generally by comparing the time of transit of Polaris, δ Ursæ Minoris, or λ Ursæ Minoris, with the right ascension given in the star list of Dr. B. A. Gould, before mentioned. There were a few occasions when the preceding named stars were not available, and it was necessary to select others from the same list; but, in all cases, both the name of the star and the resulting value are given in the following table showing the values of n during the year.

But it has been ascertained that the Transit Instrument is subject to a well-marked diurnal oscillation which changes the value of n from two to three seconds of arc, and sometimes even more. Its maximum and minimum take place not far from $3h.$ and $15h.$, corresponding approximately to the diurnal epochs of maximum and minimum temperature, a fact indicating that the disturbance proceeds from movement of the piers under thermometric changes. From $15h.$ to $3h.$, or during the day, the eastern pivot of the axis moves to the south and returns to or near to the same azimuth within the twelve following hours. Experiments are still in progress to determine definitely the law of change, but until this be positively known and the probable error in the value of n at any instant is less than that of observations of stars near the pole, the resulting right ascensions of all stars so situated must be vitiated. But as very few observations were made near the period of maximum, only two values of n have generally been adopted; one for the day and the other for night observations. Where the observations have extended through many hours of the night it became necessary to use values of n proportionate to the time from one standard azimuth star to another. The values used in the reductions are given in the foot-notes at the bottom of each page of the observations.

TABLE OF VALUES OF *n*.

Date.	Determining stars.	*n*.	Date.	Determining stars.	*n*.
1864.		s.	1864.		s.
Jan. 1	Polaris	— 0.073	March 2	δ Ursæ Minoris	+ 0.022
	Polaris, S. P.	+ .103		β Cephei	— .036
2	Polaris, S. P.	+ .228	3	Polaris	+ .033
6	ζ Ursæ Minoris, S. P.	— .046		δ Ursæ Minoris, S. P.	— .092
9	β Cephei	.000		λ Ursæ Minoris, S. P.	.100
	δ Ursæ Minoris, S. P.	— .008	5	λ Ursæ Minoris, S. P.	.220
11	β Cephei	+ .087		γ Cephei, S. P.	.207
	Polaris	— .017	6	β Cephei	.033
12	δ Ursæ Minoris, S. P.	— .079	7	Polaris	.031
14	β Cephei	+ .047	8	β Cephei	.000
	Polaris	.015	9	Polaris	.067
15	δ Ursæ Minoris	+ .074	11	β Cephei	.117
16	β Cephei	— .011	12	Polaris	.080
	δ Ursæ Minoris, S. P.	— .041		δ Ursæ Minoris, S. P.	.103
20	β Cephei	+ .066		λ Ursæ Minoris, S. P.	.214
	Polaris	.039		Polaris, S. P.,	.283
22	β Cephei	.098	15	δ Ursæ Minoris, S. P.	.155
	Polaris	.090		λ Ursæ Minoris, S. P.	.129
	δ Ursæ Minoris	.124		β Cephei	— .124
23	β Cephei	.055	17	β Cephei	+ .055
	δ Ursæ Minoris, S. P.	+ .065	18	Polaris	+ .019
	λ Ursæ Minoris, S. P.	— .005	21	γ Cephei, S. P.	— .114
25	Polaris	+ .157	23	Polaris	.064
	δ Ursæ Minoris	+ .100		Polaris, S. P.	.158
26	δ Ursæ Minoris, S. P.	— .081		β Cephei	— .044
27	Polaris	+ .324	24	Polaris	+ .060
	δ Ursæ Minoris, S. P.	.053		Polaris, S. P.	— .108
	λ Ursæ Minoris, S. P.	.031	April 6	Polaris, S. P.	.146
	δ Ursæ Minoris	.170	7	λ Ursæ Minoris, S. P.	.079
28	Polaris	.174		β Cephei, S. P.	— .179
	δ Ursæ Minoris, S. P.	+ .030	11	Polaris	+ .089
	λ Ursæ Minoris, S. P.	— .064	12	Polaris	.243
	Polaris, S. P.,	— .028	17	Polaris	+ .051
29	β Cephei	+ .175	18	Polaris	.000
	Polaris	.180	19	Polaris, S. P.	— .080
	δ Ursæ Minoris	.019	21	β Cephei, S. P.	.142
Feb. 3	δ Ursæ Minoris	.019		Polaris, S. P.	— .056
4	Polaris	.220		Polaris	+ .055
	δ Ursæ Minoris	+ .070	22	Polaris	.249
5	β Cephei	— .026	23	Polaris, S. P.	+ .075
	Polaris	+ .003	26	Polaris, S. P.	— .160
8	Polaris	— .024		δ Ursæ Minoris	.176
	δ Ursæ Minoris, S. P.	— .196		Polaris	.030
	δ Ursæ Minoris	+ .015	27	Polaris	.019
9	Polaris	— .028	28	Polaris, S. P.	.174
	δ Ursæ Minoris, S. P.	.166		β Cephei	— .263
10	Polaris	.005		Polaris	+ .066
	δ Ursæ Minoris, S. P.	.181	29	Polaris, S. P.	— .024
11	Polaris	.033	May 2	Polaris	+ 0.009
	λ Ursæ Minoris, S. P.	.179	3	Polaris	+ 0.044
12	Polaris	.011	4	Polaris, S. P.	— .072
	δ Ursæ Minoris, S. P.	.146		Polaris	+ .032
13	Polaris	.042	5	Polaris, S. P.	+ .005
16	Polaris	.091		Polaris	— .021
	δ Ursæ Minoris, S. P.	.184	6	Polaris, S. P.	— .017
17	δ Ursæ Minoris, S. P.	— .026		Polaris	+ .024
18	δ Ursæ Minoris, S. P.	+ .043	7	Polaris, S. P.	— .040
	λ Ursæ Minoris, S. P.	+ .006	16	Polaris, S. P.	.173
19	Polaris	— .019	17	Polaris, S. P.	.171
	λ Ursæ Minoris, S. P.	— .044	19	Polaris, S. P.	.113
20	Polaris	+ .109	20	Polaris, S. P.	.116
23	Polaris	— .039	21	Polaris, S. P.	.106
24	Polaris, S. P.,	.186	22	δ Ursæ Minoris	.277
25	Polaris, S. P.,	.125	24	λ Ursæ Minoris	.251
	δ Ursæ Minoris	.103	27	Polaris	.152
26	Polaris	.129	30	Polaris, S. P.	.048
	Polaris, S. P.,	.148		Polaris	.052
27	Polaris	.014	31	Polaris, S. P.	.047
	δ Ursæ Minoris, S. P.	.064	June 3	Polaris, S. P.	.011
March 2	Polaris	.012	7	Polaris, S. P.	.049
	λ Ursæ Minoris, S. P.	— 0.144	10	Polaris, S. P.	— .088

Date.	Determining stars.	n.	Date.	Determining stars.	n.
1864.		s.	1864.		s.
June 13	Polaris, S. P.	+ 0.010	Aug. 10	ε Ursæ Minoris	— 0.273
14	Polaris, S. P.	0.035		δ Ursæ Minoris	— .295
15	Polaris, S. P.	.069	11	Polaris, S. P.	+ .046
16	Polaris, S. P.	+ .050	12	Polaris, S. P.	+ .070
	δ Ursæ Minoris	— .169		δ Ursæ Minoris	— .095
17	Polaris, S. P.	+ .024		λ Ursæ Minoris	.089
20	51 Cephei, S. P.	— .191		Polaris	— .137
21	δ Ursæ Minoris	.206	13	Polaris, S. P.	+ .060
	λ Ursæ Minoris	.234	24	Polaris, S. P.	— .028
25	β Ursæ Minoris	.158	29	Polaris, S. P.	+ .025
	ε Ursæ Minoris	.163		δ Ursæ Minoris	— .127
	Polaris	.145		λ Ursæ Minoris	— .198
26	Polaris	.176	30	Polaris, S. P.	+ .003
27	Polaris	.376		λ Ursæ Minoris	— .149
28	ε Ursæ Minoris	.034	31	δ Ursæ Minoris	.104
	δ Ursæ Minoris	.237		λ Ursæ Minoris	— .197
29	δ Ursæ Minoris	.119	Sept. 1	Polaris, S. P.	+ .062
July 2	δ Ursæ Minoris	.254		λ Ursæ Minoris	— .083
4	δ Ursæ Minoris	.186	2	λ Ursæ Minoris	— .164
5	δ Ursæ Minoris	.129	Oct. 20	Polaris	+ .080
6	δ Ursæ Minoris	.136		Polaris, S. P.	.182
	λ Ursæ Minoris	.128	21	δ Ursæ Minoris	.156
8	δ Ursæ Minoris	.302	24	Polaris, S. P.	.118
9	δ Ursæ Minoris	.128	25	δ Ursæ Minoris	.155
11	δ Ursæ Minoris	.157		Polaris	.060
	λ Ursæ Minoris	.212	28	Polaris, S. P.	.533
13	β Ursæ Minoris	.235	29	δ Ursæ Minoris	.539
	δ Ursæ Minoris	.253		Polaris	+ .445
14	ε Ursæ Minoris	.145	Nov. 5	β Cephei	— .160
15	δ Ursæ Minoris	.260		Polaris	.100
16	δ Ursæ Minoris	.241	6	β Cephei	.128
18	λ Ursæ Minoris	.275	10	δ Ursæ Minoris	.005
20	β Cephei	.215		Polaris	.091
22	Polaris	.276		Polaris, S. P.	.068
23	Polaris	.233	12	Polaris	.182
25	ε Ursæ Minoris	.079	15	δ Ursæ Minoris, S. P.	.114
	δ Ursæ Minoris	.103		Polaris, S. P.	.049
29	Polaris, S. P.	.039	24	Polaris	.215
	δ Ursæ Minoris	.225		Polaris, S. P.	— .079
	λ Ursæ Minoris	.234	29	Polaris	+ .346
	Polaris	.294	Dec. 6	Polaris	+ .927
30	Polaris, S. P.	.095	12	Polaris	— .348
	Polaris	.366		δ Ursæ Minoris	.230
Aug. 1	δ Ursæ Minoris	.183	14	Polaris	.385
	Polaris	.316	20	Polaris	.222
2	Polaris	.358	22	δ Ursæ Minoris, S. P.	.039
3	δ Ursæ Minoris	.237		Polaris, S. P.	.165
5	Polaris, S. P.	.074	24	Polaris	— .251
9	Polaris	.301	29	β Ursæ Minoris	+ 0.421
10	Polaris, S. P.	— 0.211			

It will readily be seen that if m be neither large nor subject to great variation, it will be eliminated through the clock error, and therefore for astronomical purposes it may be entirely neglected. In effect, it actually was combined with the clock error in the reduction of observations.

The clock error was obtained from the corrected transits of one or more of the standard stars whose mean places for 1860.0 and proper motions are given in the following table. The apparent places of the same stars at the date of observation were obtained by application of the corrections for precession, &c., computed with constants of the American Ephemeris, including all the terms which can affect the second decimal of the seconds. The difference between the corrected transit and the computed apparent A. R. is a clock error for the instant of observation. The several results were then divided into groups, during which the clock rate might be supposed to have been uniform, and the means of the several groups were adopted as the errors at the corresponding mean of the times of transit. Usually there were but two groups for each day; one including the observations by day, and the other the observations by night.

The clock rate was obtained by two methods:

First. By equations of condition between the several stars of a group.

Second. By the change of error in the intervals between the groups, corrected for personal equation when necessary, and divided by the time elapsed.

The rate adopted for any group was a mean deduced from the changes of error between it and the preceding and following groups.

The clock made by Parkinson & Frodsham was used until September 2. Its rate has not been as uniform as is desirable. Although the diurnal polar azimuth variations changed the values of m, and consequently the apparent clock errors, the rates fluctuated more than could be thus accounted for, and as the pendulum appeared to be over-compensated, an ounce and a half of mercury was removed from it on the 9th of December, 1863, after which its performance has been better, though still bad. After September the clock made by Charles Frodsham was used and has proved itself a better instrument.

The following list contains the names of all the stars used for time and azimuth, with their adopted mean right ascensions and proper motions for the fictitious epoch 1860.0—the instant when the sun's mean longitude was 280°. Of most of them both the mean places and the proper motions have been derived from the cited discussion by Dr. B. A. Gould, and the others were obtained from a comparison of the observations at Greenwich, Paris, and Washington.

MEAN R. A. FOR 1860.0, AND PROPER MOTIONS OF STARS USED IN THE REDUCTION OF OBSERVATIONS MADE WITH THE TRANSIT INSTRUMENT.

Name.	α	μ	Name.	α	μ
		s.			s.
α Andromedæ	0 1 9.43	+ 0.010	α Canis Majoris	6 38 58.61	— 0.041
γ Pegasi	0 6 1.79	+ .001	ε Canis Majoris	6 53 7.50	+ .001
12 Ceti	0 22 53.68	— .002	γ Canis Majoris	6 57 25.50	.005
β Ceti	0 36 33.60	+ .014	δ Geminorum	7 11 45.57	+ .000
ε Piscium	0 55 40.84	— .003	α^2 Geminorum	7 25 39.74	— .013
Polaris	1 8 2.32	+ .073	α Canis Minoris	7 31 58.35	.048
θ Ceti	1 17 1.57	— .005	β Geminorum	7 36 44.68	.047
η Piscium	1 23 59.73	+ .001	ϕ Geminorum	7 44 55.50	.000
ν Piscium	1 34 8.89	— .004	6 Cancri	7 54 54.89	.005
β Arietis	1 46 54.74	+ .006	ρ Argus	8 1 34.98	.005
α Arietis	1 59 17.28	.014	η Cancri	8 24 36.52	.005
67 Ceti	2 10 0.11	.007	ε Hydræ	8 39 21.61	.012
ξ^2 Ceti	2 20 43.15	+ .001	κ Cancri	9 0 9.67	.003
γ Ceti	2 36 2.96	— .009	83 Cancri	9 11 9.80	.012
α Ceti	2 54 57.86	— .002	α Hydræ	9 20 42.46	.001
δ Arietis	3 3 37.77	+ .010	ε Leonis	9 37 53.91	.003
η Tauri	3 39 10.06	.001	μ Leonis	9 44 47.63	.019
γ Eridani	3 51 29.92	.004	π Leonis	9 52 48.80	.003
o^1 Eridani	4 5 2.03	.000	α Leonis	10 0 54.80	— .017
ε Tauri	4 20 26.71	.008	γ Leonis	10 12 14.94	+ .020
α Tauri	4 27 53.44	+ .004	ρ Leonis	10 25 26.26	.000
ι Aurigæ	4 47 52.86	— .001	l Leonis	10 41 53.74	— .001
11 Orionis	4 56 34.33	+ .002	χ Leonis	10 57 47.66	— .024
ε Leporis	4 59 32.16	.000	δ Leonis	11 6 39.52	+ .012
β Orionis	5 7 48.65	.000	δ Crateris	11 12 20.63	— .008
β Tauri	5 17 26.64	.002	τ Leonis	11 20 44.23	+ .002
δ Orionis	5 24 51.33	.001	υ Leonis	11 29 46.89	.000
α Leporis	5 26 33.42	+ .002	β Leonis	11 41 54.98	— .034
ε Orionis	5 29 6.64	— .001	o Virginis	11 58 4.66	— .013
α Columbæ	5 34 34.88	— .003	ε Corvi	12 2 55.77	+ .001
α Orionis	5 47 35.60	+ .002	η Virginis	12 12 44.66	— .004
ν Orionis	5 59 34.76	.001	β Corvi	12 27 2.31	.004
μ Geminorum	6 14 29.43	.006	α Canum Venaticorum	12 49 28.42	.020
γ Geminorum	6 29 37.42	+ .004	θ Virginis	13 2 42.28	.002
			α Virginis	13 17 49.31	— 0.002

Name.	μ	a	Name.	μ	a
		s.			s.
ζ Virginis	13 27 33.71	— 0.019	ζ Aquilæ	18 58 58.49	— 0.003
η Bootis	13 48 1.14	— .003	ω Aquilæ	19 11 14.65	+ .003
τ Virginis	13 54 31.40	+ .005	δ Aquilæ	19 18 26.32	.015
a Bootis	14 9 16.60	— .079	κ Aquilæ	19 29 21.46	+ .000
ρ Bootis	14 25 47.72	— .008	γ Aquilæ	19 39 36.20	+ .001
ε Bootis	14 38 52.38	.003	a Aquilæ	19 43 57.10	.036
a Libræ	14 43 8.34	.008	β Aquilæ	19 48 26.15	.002
ψ Bootis	14 58 26.85	.010	τ Aquilæ	19 57 17.95	+ .004
β Libræ	15 9 28.64	.007	λ Ursæ Minoris	20 3 53.40	— .071
μ Bootis	15 19 12.15	— .010	a^2 Capricorni	20 10 17.03	+ .003
a Coronæ Borealis	15 28 45.66	+ .010	ρ Capricorni	20 20 52.26	— .006
a Serpentis	15 37 22.44	.009	ε Delphini	20 26 31.43	— .001
ε Serpentis	15 43 50.38	+ .009	a Cygni	20 36 39.58	.000
δ Scorpii	15 52 3.64	— .001	μ Aquarii	20 45 5.97	+ .001
β Scorpii	15 57 18.07	.002	ζ Cygni	21 6 58.73	— .001
δ Ophiuchi	16 7 0.69	— .006	1 Pegasi	21 15 36.81	+ .009
a Scorpii	16 20 49.73	.000	β Aquarii	21 24 11.18	.002
ζ Ophiuchi	16 29 27.18	+ .001	ξ Aquarii	21 30 17.74	.006
ζ Herculis	16 36 0.56	— .034	ε Pegasi	21 37 18.60	.003
κ Ophiuchi	16 51 2.56	— .022	μ Capricorni	21 45 39.55	.023
ε Ursæ Minoris	17 0 26.89	+ .015	a Aquarii	21 58 35.32	.000
a Herculis	17 8 15.89	— .001	θ Aquarii	22 9 26.63	.007
θ Ophiuchi	17 13 24.84	— .003	π Aquarii	22 18 7.59	.000
b Ophiuchi	17 17 49.36	.000	η Aquarii	22 28 9.68	.004
a Ophiuchi	17 28 26.19	+ .007	ζ Pegasi	22 34 28.79	+ .003
μ Herculis	17 40 58.84	— .025	λ Aquarii	22 45 18.48	— .003
γ^2 Sagittarii	17 56 48.94	+ .005	a Piscis Australis	22 49 54.42	+ .024
μ Sagittarii	18 5 23.48	+ .001	a Pegasi	22 57 47.34	.004
η Serpentis	18 14 3.95	— .041	γ Piscium	23 9 54.48	.047
δ Ursæ Minoris	18 17 30.20	+ .029	κ Piscium	23 19 45.34	.005
1 Aquilæ	18 27 35.26	— .003	B. A. C. 8213	23 27 49.30	.048
a Lyræ	18 32 11.90	+ .018	ι Piscium	23 32 45.06	.026
β Lyræ	18 44 54.67	.000	δ Sculptoris	23 41 37.69	.009
σ Sagittarii	18 46 34.98	0.000	ω Piscium	23 52 7.43	+ 0.010

It becoming necessary to remove the instrument to the east room, in order to make way for the new Transit Circle, this was done during the month of September, and on the 20th of October observations were recommenced, and November 12th and 17th the following readings of the level were obtained at different pointings of the instrument, sufficient time being allowed for the bulb to settle after each change of reading of the finder circle, a slight motion having been given to the bulb to insure an independent reading:

November 12.—Facing south.			November 17.—Facing north.			November 17.—Facing north, level reversed.				
Reading	W.	E.	Reading	W.	E.	Reading.	W.	E.	W.	E.
○			○			○				
5	8.5	13.7	170	11.2	24.5	170	28.1	8.9		
10	8.5	13.7	165	11.3	24.5	165	28.1	8.9		
15	8.8	13.4	160	11.5	24.4	160	28.1	8.9		
20	9.0	13.2	155	11.6	24.5	155	28.1	8.9		
25	9.0	13.2	150	11.6	24.4	150	28.1	8.9		
30	9.0	13.1	145	11.7	24.5	145	28.0	9.0		
35	9.0	13.2	140	11.6	24.6	140	28.0	9.0		
40	9.0	13.2	135	11.3	24.9	135	28.1	8.9		
45	9.0	13.2	130	11.3	25.0	130	28.2	8.8		
50	9.0	13.2	125	11.2	25.1	125	28.2	8.8		
55	9.0	13.3	120	11.1	25.1	120	28.2	8.8		
60	9.0	13.3	115	11.2	25.1	115	28.2	8.8	28.2	8.7
65	8.9	13.4	110	11.2	25.1	110	28.2	8.7	28.2	8.7
70	8.3	13.9	105	11.1	25.2	105	28.2	8.7	28.2	8.7
75	8.4	13.9	100	11.1	25.3	100	28.2	8.7	29.8	7.1
80	8.4	13.9	95	11.1	25.4	95	28.2	8.7	30.2	6.7
85	8.3	14.0	90	11.1	25.4	90	. .	. .	30.2	6.7
90	8.4	14.0	85	11.1	25.5	85	. .	. .	30.2	6.7
95	8.4	14.0	80	11.1	25.5	80	. .	. .	30.1	6.7
100	8.5	14.0	75	11.2	25.6	75	. .	. .	30.2	6.6
105	8.6	13.9								

From which it may be inferred that the pivots are very nearly if not quite symmetrical in form.
For a new value of p careful readings were made, as follows:

October 22, Z. D. 105°.				November 17, Z. D. 90°.				November 21, Z. D. 45°.				November 22, Z. D. 60°.			
Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.	
W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.
12.5	38.0	25.0	28.4	10.7	26.3	28.3	8.4	24.8	25.5	20.2	21.8	23.6	21.6	25.5	20.6
33.0	17.0	24.0	29.5	30.3	6.7	12.2	24.5	25.0	25.2	20.2	21.8	23.3	21.8	25.6	20.7
12.8	39.0	25.0	28.2	11.5	25.5	28.3	8.3	25.1	25.0	20.2	21.9	23.3	21.8	25.6	20.7
34.5	17.0	24.8	29.0	28.8	8.1	11.1	25.4	24.7	25.0	20.3	21.7	23.4	21.8	25.6	20.7
13.2	39.1	25.8	28.0	11.3	25.5	28.3	8.3	27.5	22.2	24.0	17.8	23.2	22.2	23.7	20.7
33.1	17.8	24.8	29.0	30.1	6.7	12.0	24.5	27.6	22.1	24.2	17.7	23.5	22.0	23.7	22.7
- -	- -	- -	- -	11.2	25.5	28.2	8.1	27.6	22.1	24.0	17.8	23.8	22.0	23.9	22.5
- -	- -	- -	- -	28.8	8.0	11.7	24.7	27.6	22.0	24.0	17.9	23.8	22.0	23.8	22.7

November 22, Z. D. 75°.				November 26, Z. D. 105°.				November 26, Z. D. 120°.				November 28, Z. D. 130°.			
Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.	
W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.
26.2	20.9	26.2	20.5	24.7	33.0	24.5	34.4	23.5	34.5	24.8	33.9	26.5	32.0	27.8	30.4
26.1	20.8	26.1	20.6	24.5	33.0	24.6	34.4	23.6	34.4	24.5	34.1	26.7	31.8	28.2	30.0
25.7	21.3	26.1	20.5	24.2	33.3	24.6	34.4	23.6	34.4	24.2	34.3	26.8	31.7	27.7	30.4
25.7	21.3	26.2	20.6	24.0	33.6	24.5	34.4	23.6	34.3	24.7	33.8	26.8	31.7	27.7	30.4
23.0	23.8	23.1	23.7	27.8	29.8	31.2	27.8	28.2	29.7	30.6	27.9	35.2	23.2	35.2	22.8
23.0	23.9	23.1	23.7	27.7	29.8	31.2	27.7	28.3	29.6	30.6	27.8	35.1	23.2	35.4	22.6
22.5	24.3	23.1	23.7	27.8	29.8	31.1	27.7	28.2	29.5	30.6	27.8	35.0	23.2	35.3	22.6
22.5	24.2	23.1	23.7	27.8	29.8	31.1	27.6	28.1	29.7	30.2	28.2	34.8	23.4	35.2	22.7

November 28, Z. D. 100°.				December 3, Z. D. 50°.				December 3, Z. D. 70°.				December 3, Z. D. 90°.			
Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.	
W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.
26.9	30.8	27.0	30.7	31.2	24.0	31.0	23.4	29.9	24.0	31.0	23.0	30.0	23.6	30.0	23.3
26.9	30.8	27.1	30.6	31.2	24.0	31.1	23.3	29.9	24.0	31.0	23.0	30.1	23.4	30.0	23.3
26.9	30.7	27.1	30.5	31.2	24.0	30.8	23.6	29.8	24.1	30.9	23.0	30.0	23.4	30.2	23.1
27.0	30.7	27.1	30.6	31.3	23.8	30.7	23.6	29.8	24.0	30.9	23.0	30.0	23.4	30.1	23.2
33.6	24.0	35.5	22.0	34.5	20.5	34.0	20.1	33.8	20.0	34.3	19.7	32.9	20.5	34.6	18.6
33.6	23.9	35.5	22.0	34.7	20.3	34.2	19.9	33.8	19.9	34.3	19.7	33.0	20.3	34.3	18.8
33.5	24.0	35.3	22.1	34.7	20.2	34.1	20.0	33.7	19.8	34.3	19.6	32.9	20.4	34.3	18.8
33.7	23.8	35.2	22.2	34.3	20.5	34.1	19.9	33.7	19.7	34.3	19.6	32.9	20.4	34.5	18.6

December 3, Z. D. 60°.			
Clamp east.		Clamp west.	
W.	E.	W.	E.
29.7	23.4	30.1	23.0
29.7	23.4	30.0	23.1
29.7	23.4	30.0	23.0
29.7	23.4	30.0	23.0
33.5	19.6	34.7	18.3
33.7	19.3	34.7	18.3
33.7	19.2	34.5	18.5
33.6	19.3	34.3	18.7

The first readings are Z. D. north, and the second Z. D. south.

These readings, using the value of a level division = 0s.051, give the following values of b, b^1, and p, where b represents the difference of level clamp east, b^1 the same quantity clamp west, and p the excess of the clamp pivot.

VALUE OF p.

Date.	b.	b^1.	$b - b^1$.	p.	Z. D.
	s.	*s.*	*s.*	*s.*	°
October 22	— 0.1309	— 0.0965	— 0.0344	+ 0.0086	70
November 17	+ 0.0969	+ 0.0900	+ 0.0069	— 0.0017	90
21	0.0650	0.0596	+ 0.0054	— 0.0014	45
22	0.0405	0.0768	— 0.0363	+ 0.0091	60
	+ 0.0453	+ 0.0638	0.0185	0.0046	75
26	— 0.1390	— 0.0714	0.0676	0.0169	105
	— 0.1562	— 0.0880	0.0682	0.0170	120
28	+ 0.0851	+ 0.1294	0.0443	0.0111	130
	0.0746	0.1246	0.0500	0.0125	100
December 3	0.2735	0.2748	0.0013	0.0003	50
	0.2518	0.2882	0.0364	0.0091	70
	0.2435	0.2878	0.0443	0.0111	90
	+ 0.2623	+ 0.2945	— 0.0322	+ 0.0080	60

The means of which give $p = + 0s.008$, which was used in the reduction of the observations made after the removal of the instrument.

The following values were obtained for the value of one division of the spirit level:

Date.	Centre of bulb.	Circle read'g.	Value of d.	Date.	Centre of bulb.	Circle read'g.	Value of d.
	d.	″	*s.*		*d.*	″	*s.*
November 12	+ 38.70	9.35		November 12	— 16.95	27.62	
	28.25	19.65			— 5.70	37.70	0.0539
	+ 17.20	29.63			+ 7.92	47.57	
	— 3.98	39.68	0.0542		+ 17.95	56.28	
	8.98	49.02					
	18.92	59.47		December 6	+ 23.68	24.32	
	— 33.52	69.08			+ 9.72	34.35	0.0478
					— 4.98	44.50	
					— 17.70	54.17	
November 12	+ 34.70	16.73					
	21.38	26.97		December 7	+ 22.10	14.92	
	+ 8.02	37.15	0.0490		+ 8.48	24.52	0.0515
	— 6.15	46.32			— 4.95	35.65	
	— 18.62	56.38			— 17.55	45.35	

The means of which give, for a division of the level, 0*s*.051.

PERSONAL EQUATION.

To eliminate, as far as possible, the influence upon resulting Right Ascensions which might arise from one observer using clock errors that had been determined from observations of another, on several occasions each observed a group of clock stars within the period embraced by observations of the other. The following are the results; Y. and R. indicating Prof. Yarnall and Mr. Joseph A. Rogers, respectively:

Date.	Star.	Y.—R.	Date.	Star.	Y.—R.
		s.			*s.*
Mar. 23	α Tauri	— 0.02	May 4	β Orionis	+ 0.08
April 17	α Pegasi	0.00		δ Orionis	0.06
22	δ Orionis	+ 0.03	6	α Arietis	0.06
	α Orionis	0.01		α Tauri	0.03
	ε Orionis	0.04		β Orionis	0.11
May 4	α Arietis	0.15		ε Orionis	0.12
	α Tauri	+ 0.05		α Orionis	+ 0.08

Or, observations made by Mr. Rogers under the above circumstances require to be diminished by 0s.06.

EXPLANATION OF THE PRINTED OBSERVATIONS.

Column 1 contains the date and initial letter of the observer's name; the day commencing at apparent noon.

Column 2 contains the name of the object, or its approximate declination, when it is not contained in catalogues.

The following system for nomenclature was adopted:

1. By the constellation and Bayer letter there given.
2. By the constellation and Flamsteed number there given.
3. By their number in the catalogue.

Exceptions are made in the case of Polaris, λ Ursæ Minoris, and some of Dr. B. A. Gould's list of standard circumpolar stars, to which the number of Hevelius is prefixed.

Other stars found in published catalogues are designated by the name and number in the catalogue.

Column 3 contains the number for reference.

The following abbreviations occur:

O. Arg. N., Oeltzen's Catalogue from Argelander's Northern Zones.

O. Arg. S., Oeltzen's Catalogue from Argelander's Southern Zones.

B. Z., Bessel's Zones.

Those which have been used as comparison stars in observations with the Equatorial, but which cannot be recognized in published catalogues, have the same designation as in the equatorial observations of the object compared with them, or a number followed by the letter W.

Columns 4–14, inclusive, contain the seconds and tenths of the transits over the several threads as noted by the observer at the time, or as subsequently read from the chronographic record. But as there are twenty-one threads, over each of which observations were taken at different times, the numbers over the column may not represent the thread at which a star was observed, and this datum can become known only by comparing the observation with the equatorial intervals.

The transits of stars below the pole are recorded over the several threads from right to left, so that the same numbers correspond to the same threads that they would refer to if the transit occurred above the pole.

Column 15 contains the minutes, seconds, and decimals of a second, obtained by taking the mean of the preceding times of transit over the threads observed

Column 16 contains the sum of the corrections necessary to reduce the numbers of the preceding column to the clock time at which the object crossed the great circle passing through the pole and the point in which the line of collimation intersects the equator. It consists of two parts:

1. For broken observations of stars from the mean given in column 16 to the mean of the threads B_1, B_2, B_3, C_1, C_2, C_3, C_4, C_5, D_1, D_2, D_3, by the formula,

$$R = \text{Equat. int.} \times \sec \delta;$$

or if the star was so near to the pole that the difference between the sine and arc of the reduction was sensible,

$$\text{Sin } R = \sin \text{ Equat. int.} \times \sec \delta.$$

In case of the Moon, the reduction was computed by Prof. Airy's formula, published in the Greenwich Observations:

$$\frac{3600+I}{3600} \times \frac{\text{Sin } \mathbb{D}\text{'s Geo. Z. D.}}{\text{Sin } \mathbb{D}\text{'s App. Z. D.}} \text{Sec } \mathbb{D}\text{'s Geo. Z. D.},$$

in which I represents in seconds of time the Moon's increase of right ascension in one hour of longitude as given in the Nautical Almanac. The factor $\frac{\text{Sin } \mathbb{D}\text{'s Geo. Z. D.}}{\text{Sin } \mathbb{D}\text{'s App. Z. D.}}$ has been tabulated for the latitude of the Observatory as a function of the parallax and geocentric declination.

In case of the Sun and Planets, the correction was computed in the same manner as for stars, and increased by their respective motions in right ascension during the intervals expressed by the correction.

2. The correction for collimation and polar azimuth computed by the formula

$$\text{Correction} = n \tan \delta + c \sec \delta;$$

of which the method of obtaining the factors n and c has already been stated. This correction combined with m was usually so small that further modification for the motion and parallax of the Moon in reducing observations of that body was rarely necessary.

Column 17 contains the correction for clock error obtained as stated, and brought forward to the instant of observation by the rate. The clock error used is that obtained by the observer whose initial is given in column 1.

Column 18 contains the apparent right ascension of the object or part of the object actually observed, obtained from the sum of the three columns immediately preceding. When only one limb of the Sun or a planet was observed, the sidereal time of the transit of the semidiameter over the meridian, as given in the American Ephemeris and Nautical Almanac, will be found in the following column. From 273 transits of both limbs of the Sun, observed during the years 1861, 1862, and 1863, and compared with the sidereal times of the semidiameter passing the meridian as given in the American Ephemeris, there results C — O = + 0.06s., a correction applied to the computed value in the few cases when one limb only was observed.

Column 19 contains the corrections applicable to the preceding column to reduce the observations of the stars to their mean places 1860.0*d*.4, or the instant when the Sun's mean longitude was 280°. These were computed from "constants for the reduction of fixed stars" given in this volume, and in the preparation of which the coefficients are the same as those used in the American Ephemeris and Nautical Almanac. The corrections include no proper motions except those used in the list of time and azimuth stars published in this introduction.

There will be found at the foot of the page the adopted clock and instrumental corrections, observations of the reflected image of the middle wire, position of the clamp E or W, and such notes as the observations called for. The notes are of two classes, viz: Those made at the time of the observation, and those which result from subsequent examination of the observation. The former are printed in Roman and the latter in italic letters.

A comparison is given, pp. 365 to 377, of the observations of the Sun, Moon, and Planets, with their tabular places in the American Ephemeris and Nautical Almanac for 1864.

The several observations of each fixed star reduced to their mean place for 1860 + 0*d*.4, are collected in pages 307 to 341. As a general but not always imperative rule, the results for fundamental polar or clock stars have been excluded when any change in the tabulated places of those stars would affect the resulting right ascension by an amount equal to one-third of such change.

The magnitude of each star, when estimated by the observer at the time of observation, is given in the same tables. Usually, estimates were made from the appearance of the star in the telescope; but with the brighter stars, the conclusion thus arrived at was occasionally combined with unassisted eye estimate made at the same transit. When doubtful the observer marked his estimate with a colon.

Observations recorded as doubtful and of less weight than usual are indicated by colons, but these marks are never annexed in consequence of accordance or discordance of results. When a result is discordant, reference is had to the original record, and the observation is retained or rejected as is warranted by the evidence there found. All rejected results are enclosed in parentheses.

Pages 403 to 442 contain a catalogue of the stars observed during the year, reduced to the fictitious epoch 1860.0.

The observations have been reduced by the officers attached to the instrument, assisted by Professor Eastman, who compiled the catalogue, and Mr. Charles Thirion, "Aid," who assisted as required in computing, in copying, and comparing anonymous stars with star catalogues, and preparing a list of observations of the Sun, Moon, and Planets.

THE MURAL CIRCLE.

During the year 1864 the Mural Circle was employed in observations of the Sun, Moon, and larger planets; of all the asteroids which could be seen with it when they passed the meridian between 11*h*. and 13*h*.; of circumpolar stars suitable for determining the latitude of the Observatory; of Nautical Almanac stars; of stars for reduction of the zone observations with the Meridian Circle previous to 1850; and of comparison stars used by the Equatorial.

MICROMETER AND TRANSIT WIRES.

The diaphragm used in 1863 remained in use till May 22, 1864. On that day the spider lines were found to be loose, and badly bent, by moisture. They were removed, and new wires put into the same scores. October 6th they had to be again changed for the same reason. No change was made in the adopted intervals between the middle wire and each of the other twelve, which are as follows:

Wire	I.	II.	III.	IV.	1.	2.	V.	4.	5.	VI.	VII.	VIII.	IX.
Interval	*s.* +53.6	*s.* +40.6	*s.* +28.8	*s.* +15.7	*s.* + 3.3	*s.* + 1.6	*s.* 0.0	*s.* — 1.7	*s.* — 3.5	*s.* —16.3	*s.* —28.8	*s.* —40.8	*s.* —52.9

The interval of the two horizontal wires has not been wanted for the reductions, all observations being referred to the imaginary wire equidistant between the two. It was approximately 8″.5 before October 6th, and 7″.9 thereafter.

INEQUALITY OF THE MICROMETER-SCREW.

Until March 2 the correction applied for inequality was that determined in 1863, and given on page xxvi of the Introduction to the Washington Observations for that year. Suspicions arising that this correction was no longer applicable, the inequality was redetermined in the following manner:

The screw being placed at an integral number of revolutions (say 30*r*.0:) the circle and telescope were turned gently until the northern horizontal thread, as seen directly, was by estimation accurately as far north of its image seen in a basin of mercury as is the interval between the two threads. The two threads and their images thus formed three equal spaces. The correctness of this estimation was tested by turning the micrometer backward to destroy the equality of the intervals and restoring them by motion of its screw in the opposite direction. The reading of the divided head was then noted. The micrometer-screw was then turned until the horizontal threads and their images formed a like series of horizontal intervals south of the threads, when the divided head was again read. The difference between the two readings is equal to twice the distance of the threads in turns of the micrometer-screw value. Five similar measurements were made and their mean value accepted.

The micrometer-screw was then successively placed at 30.1*rev*., 30.2*rev*., 30.3*rev*., &c., &c., and measurements precisely similar to the preceding were repeated for each tenth of a revolution; the precaution being taken that all the measures of any one revolution were made by the same observer and on the same evening. In this way the following readings were made during the month of April, 1864. The first column gives the

micrometer reading when the wires were south of their images, the second when they were north, the third the difference of the first two, or the measured double interval of the wires, and the fourth the difference between each measure, and the mean of the series, in units of the third place of decimals.

Observer, N.				April 20. Observer, N.				April 12. Observer, Ha.				April 1. Observer, N.			
r.	*r.*			*r.*	*r.*			*r.*	*r.*			*r.*	*r.*		
26.008	.592	.584	+ 5	26.999	.580	.581	— 1	28.018	.567	.549	— 9	29.019	.602	.583	+ 3
.109	.704	.595	16	27.099	.698	.599	+17	.109	.684	.575	+17	.107	.703	.596	16
.202	.797	.595	15	.195	.800	.605	23	.199	.775	.576	18	.193	.787	.594	14
.302	.897	.595	16	.299	.900	.601	19	.308	.877	.569	11	.307	.893	.586	6
.401	.989	.588	9	.405	.994	.589	8	.396	.963	.567	9	.399	.985	.586	6
.501	.083	.582	+ 2	.511	.095	.584	+ 2	.508	.071	.563	+ 5	.506	.088	.582	+ 2
.607	.176	.569	—10	.604	.177	.573	— 9	.598	.154	.556	— 2	.598	.170	.572	— 8
.691	.253	.562	17	.700	.257	.557	24	.711	.246	.535	23	.692	.256	.564	16
.805	.364	.559	21	.796	.355	.559	23	.798	.346	.548	10	.808	.373	.565	15
26.905	.469	.564	—15	27.897	.468	.571	—11	28.908	.447	.529	—19	29.895	.469	.574	— 6
Mean.	- -	.5793	0	Mean.	- -	.5818	0	Mean.	- -	.5577	0	Mean.	- -	.5802	0

April 14. Observer, Ha.				April 8. Observer, N.				April 22. Observer, N.			
r.	*r.*			*r.*	*r.*			*r.*	*r.*		
30.007	.562	.555	+ 3	31.002	.578	.576	+ 7	32.006	.586	.580	+ 5
.111	.670	.559	7	.099	.681	.582	14	.100	.686	.586	11
.221	.788	.567	15	.204	.791	.587	18	.197	.786	.589	15
.303	.869	.566	14	.304	.878	.574	6	.299	.886	.587	12
.402	.962	.560	8	.413	.990	.577	8	.404	.986	.582	7
.511	.066	.555	+ 3	.505	.079	.574	+ 5	.504	.081	.577	+ 3
.618	.168	.550	— 2	.603	.157	.554	—14	.595	.159	.564	—11
.706	.239	.533	19	.708	.253	.545	24	.692	.245	.553	22
.800	.331	.531	21	.806	.361	.555	13	.795	.355	.560	14
30.903	.446	.543	— 9	31.908	.470	.562	— 7	32.893	.462	.569	— 6
Mean	- -	.5519	0	Mean.	- -	.5686	0	Mean.	- -	.5747	0

Supposing each reading to require a correction of the form

$$\alpha \cos u + \beta \sin u,$$

u being the micrometer reading expressed in arc, the values of α and β given by the seven separate determinations are as follows:

rev.	α	β
26	— .0020	+ .0093
27	.0024	.0109
28	.0030	.0080
29	.0001	.0071
30	— .0021	.0081
31	+ .0003	.0086
32	— .0007	+ .0080
Mean .	— .0014	+ .0086

The required correction is therefore

$$-0r.0014 \cos u + 0r.0086 \sin u.$$

The correction was again determined in the same way, during the month of June, with the following result:

$$+0r.0016 \cos u + 0r.0072 \sin u.$$

Again, between November 28 and December 2, the result was

$$-0r.0018 \cos u + 0r.0025 \sin u.$$

The inequality is, therefore, continually diminishing. The extent and rapidity of the diminution may be seen by reducing each of the four determinations to a single term.

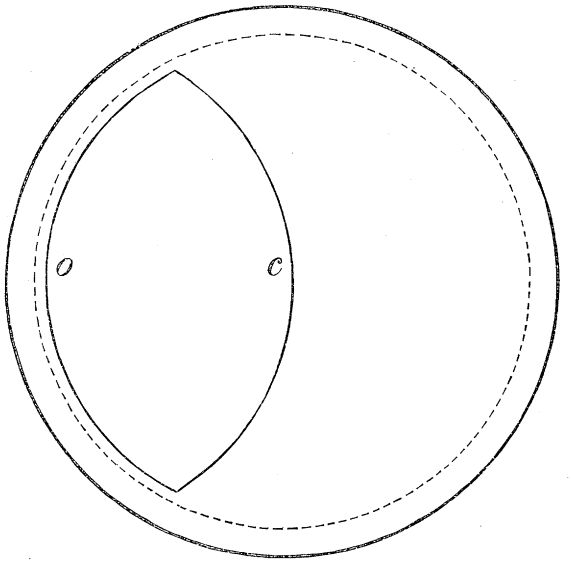
1863.	April - - -	Cor. =	0.0129 sin (u + 26° 46′.)
1864.	April - - -		0.0087 sin (u — 9° 16′.)
1864.	June - - -		0.0074 sin (u + 12° 35′.)
1864.	December - -		0.0031 sin (u — 36°.)

INSTRUMENTAL ADJUSTMENTS.

The principal changes in the adjustment of the instrument, accidental or designed, were as follows:

1864, January 4: The telescope was moved forward 90° on the circle, so that the zenith point reading was now 90° instead of 0° as heretofore.

The focal adjustment of the instrument was tested by means of a cap made for the purpose, the form of which is shown by the following diagram:



The dotted circle shows the limit of the pencil of rays admitted by the object-glass. C O is an eccentrically placed opening in the cap. It will be perceived that, when the cap is on, a symmetrically formed pencil of rays, bounded on both sides by the aperture of the cap, is admitted through one side of the object-glass. The pencil is made symmetrical from its origin, in order to destroy the effect of diffraction.

The cap being put on the telescope with the aperture to the south, (or north,) the telescope was pointed toward the nadir, and the micrometer reading for coincidence of the mean wire with its image was found as in observing the nadir point. The cap was then turned round 180°, and the reading for coincidence again found. When the focus is correctly adjusted these readings agree.

The adjustment being thus tested it was found, on the evening of January 4, that the wires were between the object-glass and the true focus, being about 0.03 in. within the latter. This mal-adjustment was corrected.

May 23–26. It was found that the true focus was now inside of the wires, and the eye-piece had to be returned to the position in which it was at the beginning of the year, in order that the focal adjustment should be correct. This change at first caused considerable embarrassment; but when the cold weather set in, the true focus was once more found to be formed beyond the wires, showing that the change was due to the variations of temperature. Comparing the focal lengths found at extreme temperatures, it was found that they were sensibly constant, the change of position of the wires relatively to the true focus being sensibly equal to the expansion or contraction of the brass of the telescope, due to the change of temperature. It was, therefore, deemed advisable to use one focal adjustment for summer, and another for winter.

During the month of June the nadir point was found to be subject to continual variations through a

range of 3″. The most careful examination failed to reveal the cause of this annoying phenomenon. On July 5, however, the clamping screws of several of the microscopes were tightened, and from about that time the changes ceased. It was presumed to date from May 26, the date of insertion of the new wires.

October 5–6. New wires had to be inserted, the old ones being once more found loose.

October 7. The new wires were adjusted for horizontality.

November 26. The focus being found too short, was adjusted by lengthening it.

INCLINATION OF DECLINATION WIRES TO THE HORIZON.

This was found by comparing the micrometer readings at passage over the extreme wires of a great number of stars, giving greater weight to stars between the zenith and equator, and entirely rejecting those which passed the meridian at a less altitude than 20°.

VALUE OF A REVOLUTION OF THE MICROMETER-SCREW.

The value of a revolution of the micrometer-screw is obtained by aid of the collimating eye-piece, and the circle graduations. As the use of the screw is limited in practice to arcs less than 5′, only the divisions corresponding to circle readings 269° 55′, 270° 0′, 270° 5′, were employed in this determination.

The method of proceeding was as follows: The circle having been set at reading 269° 55′, the microscopes were read, and the coincidence of the micrometer threads seen directly with the images reflected from the mercury were noted in the manner already detailed for finding irregularities of the screw and referred to again in connexion with nadir determinations. The circle was then moved and similar readings made in the approximate positions 270° 0′, 270° 5′, and, finally, 269° 55′, as at first. The agreement of the first and last readings serves as a check upon the constancy of the nadir point. The number of revolutions and parts of a revolution of the screw passed through is evidently a measure of the arc of the circle included between the readings of its two positions, and from which the former is derivable. The micrometer readings being corrected for irregularity of screw and for the small excess or defect of circle reading from the exact arc, the difference of the extreme micrometer readings was the equivalent of 600″ in arc.

The value of a micrometer-screw was thus determined by each of the observers on January 21st, and again on May 28th, after the focus had been shortened. The observations are given under their proper dates in the body of this volume. The results were as follows:

		N.	H.	Mean.
January 21	1*r.* =	31″.325	31″.344	31″.334.
May 28	1*r.* =	31″.343	31″.340	31″.342.

The value found in 1863 being 31″.331, the first determination in 1864 was combined with it, and the value

$$1\ rev. = 31''.333$$

was adopted. The change from shortening the focus in May was so small that the same value was continued through the year.

THE NADIR POINT.

For determination of the Nadir point a cap is provided which fits loosely over any of the eye-pieces of the telescope. Just above the eye-lens the cap has a plate of thin glass inclined at an angle of 45°. This arrangement has the decided advantage of enabling the observer to collimate without removing the eye-piece used in observation, and thereby both avoids risk of injury to the threads and prevents the otherwise frequent admission of dust by air currents, &c.

The mode of observation is as follows: The circle telescope is so pointed that when the Nadir divisions of the former are accurately under the zeros of the microscopes the images of the horizontal threads in the field of the latter may be seen at a small distance from the threads themselves. The circle microscopes are read then, or at the conclusion of the reflection measures. The micrometer reading for the true Nadir, being that which corresponds to the coincidence of each thread seen directly with the image of the other seen

by reflection may be obtained in three modes: 1. Three equal spaces may be formed as described when treating of the inequality of the micrometer-screws. 2. Each thread may be made to bisect the space between the other thread and its image. 3. The images may alternately be made to bisect the interval between the threads, to effect which the threads are moved over half their interval, or $0r.14$ between every two successive readings. The observers generally gave preference to the last method, but occasionally used each of the others. As the Nadir point thus determined always depends upon the same set of divisions of the circle, and is made with the same part of the micrometer-screw, it will uniformly be affected with the errors of those divisions and by any inaccuracy peculiar to that portion of the screw.

METHOD OF OBSERVING.

The method of observing was the same as in preceding years, and consisted essentially in transferring the subdivision of the circle from the microscopes to the micrometer eye-piece. The circle having been previously set so that the divisions nearest to the reading for the given declination were as accurately as practicable under the zero of the microscopes, the object was repeatedly placed equidistant between the parallel threads whilst it was passing across the field, and the reading of the micrometer head noted each time. The circle microscopes were read either before or after the observation, and sometimes both before and after. By this method the correction for runs of the microscope screws, as well as for their possible periodic errors, is rendered generally inappreciable, the changes of their mean reading during a night's work usually being less than $5''$.

In ordinary observations of stars, five micrometer measures between the parallel threads were made as nearly as practicable at vertical threads III–VII, or at vertical threads I, III, V, VII, and IX. For circumpolar stars only threads 1–5 were used. In observations of the sun, the circle was first set for one of the limbs and read beforehand, and while that limb approached the centre of the field, four micrometer readings were obtained at vertical threads I–IV. The junior observer, (D.) however, usually took but two readings for each limb. The circle was then quickly moved to the even reading for the other limb, another set of four measures taken at vertical threads VI–IX, and the microscopes were read afterwards. The order of limbs observed (N.S. or S.N.) was generally reversed on successive days. When both limbs of planets were observed, the measurements were usually made at alternate transit threads, thereby securing symmetry for each with reference to the meridian.

When direct and reflection observations of stars were made at the same transit, the observations were usually made in the same way as those of the sun.

The clock time of transit over the middle thread is entered in the observing-books, but has not been copied for the printed pages.

No account has been taken of the errors of circle graduation, either accidental or systematic. The probable value of the former, under the mean of six microscopes, was found in 1845–'46 to be only $0''.174$; and, from the smallness and convergence of the reduction of the mean of two and of three microscopes to that of six, the systematic error of division was inferred to be equally minute.

EXPLANATION OF THE PRINTED OBSERVATIONS.

Column 1 contains the date, the day being assumed to commence with the transit of the sun.

Column 2 contains the number for reference.

Column 3 designates the object observed. The names of stars are taken from catalogues in the following order of preference:

British Association Catalogue.

Weisse's Catalogus Stellarum ex Zonis Regiomontanis.

Lacaille's Catalogue, published by the British Association.

Oeltzen's Catalogue, Argelander Zonen Beobachtungen.

Lalande's Catalogue, published by the British Association.

For anonymous stars the approximate right ascension is always given.

Column 4 shows the magnitude estimated at the time of observation.

Columns 5 and 6 show the number of micrometer readings and the transit threads at which these readings were made. When the number of micrometer readings does not correspond with the number of threads included within the limits stated in column 6, it is to be understood that the observations were taken at equal intervals between those limits.

Columns 7 to 12 are sufficiently explained by their respective titles.

Column 13 contains the mean of the six microscope readings. When any microscope is omitted, the reduction to the mean of the six from the mean of the pair to which it belongs has been found from a number of observations immediately preceding and following. One-half the correction is subtracted from the mean of the other four microscopes to obtain the numbers given in this column. The probable difference between this result and the true mean is less than two-tenths of a second.

Column 14 contains the mean of the observed micrometer readings.

Column 15 contains the corrected meridian reading of the micrometer deduced from the preceding by the application of—

1. The correction for irregularity of the micrometer-screw, the formulæ for which are given on p. xxiii. These formulæ were tabulated as follows, four successive values of the correction being used in the course of the year. Constants were added to the numbers of each table to make them all positive. The argument is the fraction of a revolution.

Arg.	Jan. 1 to Mar. 2.	Mar. 3 to May 24.	May 25 to Nov. 10.	Nov. 11 to Dec. 31.
r.	*r.*	*r.*	*r.*	*r.*
.00	0.020	0.009	0.012	+ 0.001
.05	23	0.011	14	2
.10	25	14	16	3
.15	27	16	17	4
.20	27	18	17	5
.25	27	19	17	6
.30	26	19	16	6
.35	23	18	15	6
.40	18	16	13	6
.45	0.013	14	0.011	6
.50	0.008	0.011	0.008	0.005
.55	4	0.009	6	4
.60	2	6	4	3
.65	1	4	3	2
.70	2	2	3	1
.75	4	1	3	0
.80	0.007	1	4	0
.85	0.011	2	5	0
.90	14	4	7	
.95	17	6	9	
.00	0.020	0.009	0.012	0.001

2. The reduction to the meridian. For observations made on any of the vertical wires the reduction is given by the formula:

$$\Delta m = -\frac{\sin^2 h}{2r \sin 1''} \tan \delta;$$

h being the equatorial interval in arc of the vertical wire, and r the value of one revolution of the micrometer Expressing h in seconds of time, and putting for r its value already given, this expression becomes

$$\Delta m = -[5.2405]\, h^2 \tan \delta,$$

the value of which, for different wires, is tabulated on pp. xxxii–xxxiii of the Washington Observations for 1863.

Stars near the pole are sometimes observed without reference to the vertical wires, the clock times of

observation being recorded instead. In such cases the reduction to the meridian is computed by the formula:

$$\Delta m = -\frac{225 \sin 1''}{4r}(t-\alpha)^2 \sin 2\delta;$$

t being the true sidereal time of observation and α the right ascension of the star.

3. The correction of unsymmetrical observations of the Sun, Moon, and Planets, on account of motion in declination. In the case of the Moon the correction was computed by the formula:

$$\Delta m = [4\,943]\, hs \sec\delta\, \Delta\delta;$$

hs being the equatorial interval in seconds of time of the vertical wire at which the observation is made, and $\Delta\delta$ the change of declination in seconds of arc for one hour of terrestrial longitude.

In the case of the Sun both the motion in declination and the reduction to the meridian may be expressed as a function of the meridional zenith distance. A table has therefore been constructed, giving the combined value of these corrections when the Sun is observed over the four outside wires, as a function of the meridional zenith distance of its centre. It also gives the parallax in altitude.

4. The correction of unsymmetrical observations for inclination of the micrometer threads to the horizon. The values of this correction for the first four wires, of which the mean equatorial interval is 34s.5, were as follows:

	$r.$
January 1 to May 23 - - - -	$i = -0.016$
May 25 to October 4 - - - -	$i = 0.000$
October 8 to November 26 - - -	$i = +0.030$
November 26 to December 31 - -	$i = +0.014$

Columns 16, 17, and 18 contain the readings of the Newman barometer, its attached thermometer, and the external thermometer. By comparison with the standard barometer, the necessary correction of these readings is found to be only -0.001 inch, involving a correction of the log. refraction of $-.00001$. The readings of the attached thermometer are assumed to be correct. The external thermometer is a standard by Troughton & Simms, and is the one designated No. 3 in the Appendix to Washington Observations for 1845, page 54. It is placed outside of the north aperture, and is held between two horizontal supports, which carry it several inches beyond the wall. The scale is read by help of a small sextant telescope attached to the window frame.

Column 19 contains the adopted value of the micrometer zero, that is, the micrometer reading for the true nadir when the mean circle reading is exactly 270°. The value of the micrometric zero resulting from each nadir observation is found by subtracting the excess of the circle reading over 270°, expressed in micrometer revolutions, from the micrometer reading, corrected for irregularity of screw. When the extreme difference of these values, for a period of several days, is less than half a second of arc, the mean value is usually adopted for the entire period. Otherwise the results for each day are taken separately.

Column 20, entitled "correction for micrometer," contains the micrometer equivalent, or the difference between the quantities in columns 14 and 18 converted into arc. If the former quantities are denoted by m and the latter by m_o, the values in this column will be given by the formula:

$$\text{Corr.} = (m_o - m)\, r.$$

Column 21 contains, as "correction for object," the sum of the following quantities:

1. The correction for refraction corresponding to the observed zenith distance and barometer and thermometer readings. This quantity is computed from Bessel's tables, as given in an expanded form in the Appendix to the Washington Observations for 1845. The observed zenith distance is obtained from the circle reading by applying the micrometer equivalent from the preceding column, and diminishing the sum by 90°.

The following corrections are applied to the thermometer readings for irregularities in the bore of the tube:

CORRECTIONS OF THERMOMETER.

Ther. scale.	Corr.	Δ log. ref.	Ther. scale.	Corr.	Δ log. ref.
°	°		°	°	
30	— 0.04	+ .00004	66	+ 0.20	— .00016
32	.06	5	68	.25	21
34	.11	10	70	.22	18
36	.08	7	72	.12	10
38	.05	4	74	+ .03	— 3
40	.02	2	76	— .01	+ 1
42	.01	1	78	.04	3
44	.00	0	80	.04	3
46	.01	1	82	.01	1
48	.03	3	84	.00	0
50	.04	3	86	.06	5
52	.03	3	88	.12	10
54	.01	1	90	.14	11
56	.01	1	92	.14	11
58	— .03	+ 3	94	.14	11
60	.00	0	96	.13	11
62	+ .05	— 4	98	.12	10
64	+ 0.12	— .00010	100	— 0.12	+ .00010

2. The correction for parallax for observations of the Sun, Moon, and Planets, computed for the first and last, by the formula:

$$p = \pi . \sin (z' - 11'.2);$$

and for the Moon:

$$\sin p' = \sin \pi . \sin (z' - 11'\ 14''.54). \text{ [9.9994302,]}$$

$$\text{or } p' = \pi . \sin (z' - 11'\ 14''.54). \text{ [9.9994302]}. \frac{\text{sine } \pi}{\text{arc } \pi} \cdot \frac{\text{arc } p'}{\text{sine } p'}.$$

$$\text{and } p = p' \mp \tfrac{1}{2} (p \mp s) \sin p \sin s,$$

the upper signs corresponding to observations of the upper limb, and *vice versa*. The quantities

$$\frac{\text{sine } \pi}{\text{arc } \pi} \text{ and } \frac{\text{arc } p}{\text{sine } p}$$

are given in tables IX and X, and the correction of p' in the last formula is given in table XI of the Appendix to the Washington Observations for 1845. In these formulas

z' represents the observed zenith distance, corrected for refraction.

π, the equatorial horizontal parallax, as given in the American Ephemeris.

s, the semi-diameter of the object.

p, the required correction for parallax.

3. In cases when only one limb of an object is observed, the correction for semi-diameter is included under this head. This correction is in all cases taken from the American Ephemeris.

4. When the nominal centre of Venus was observed, the point of observation was supposed to be the mean of the two apparent limbs, and a correction was applied to reduce this point to the centre, as follows:

1864. Feb. 29, + 0.07. March 10, + 0.09; 20, + 0.10; 30, + 0.10. April 9, + 0.10; 19, + 0.10; 29, + 0.10.

Column 22 contains the sum of columns 13, 20, and 21, and is the observed geocentric zenith distance, increased by 90°. When only one limb of a body is observed or used for declination, the zenith distance is that of the centre; otherwise it is that of the apparent limb.

Column 23 contains the declination of the centre of the object, using the assumed latitude 38° 53′ 39″.25. When the preceding column gives the circle reading corresponding to the two limbs of a planet, and one of them is defective, that of the centre is found by applying that of the full limb to the semi-diameter deduced from the observation. This is obtained by dividing the observed diameter by $1 + \cos \theta$, or $1 + \cos \theta'$, θ and θ' being found from well-known formulas, and being defined in the Washington Observations for 1847.

Column 24 contains for the fixed stars the reduction from the apparent declination at date to the mean declination for 1860 0. They were computed by Bessel's formulæ, with constants prepared from the logarithms A, B, C, and D, of the American Ephemeris and Nautical Almanac, and, in addition to the terms included in that work, they include also those depending on twice the Moon's mean longitude. Corrections for proper motion have not been applied to any star.

Column 25 contains the initials of the observers' names:

N. denoting Prof. S. Newcomb.
H. " " Asaph Hall.
Ha. " " W. Harkness.
D. " Mr. M. H. Doolittle.

THE PRIME VERTICAL TRANSIT INSTRUMENT.

During the year 1864, this instrument was employed mainly in observations of α Lyræ.

The diaphragm of the eye-piece contains fifteen fixed vertical wires, and two horizontal ones, which pass across the middle of the field. There is also a vertical wire movable by a micrometer-screw.

METHOD OF OBSERVING.

A few minutes, generally about five, before the star reaches the first wire, the telescope is pointed approximately in the direction for commencing the observation, and four (occasionally six) level readings are taken, the level being reversed on the axis between every two readings. The time of transit over the seven wires first reached by the star is then noted by eye and ear with the clock of the south wing. The motion of the star being very oblique relatively to the wires, the telescope is moved before each transit over a wire, so that the transit shall take place between or near the two horizontal wires. As soon as the time of transit over the seventh wire is recorded the instrument is reversed, and the transits over the same wires, now upon the opposite side of the field, are noted in reverse order. Four level readings are again taken as before. The telescope is then turned toward the point at which the star crosses the west vertical, and as the star approaches it the same processes of level readings, transits, and reversal of instrument are repeated, the telescope being returned to its original side of the pier by the second reversal.

The time of reading the level was, after the first three weeks of 1864, frequently modified. The level was read and reversed immediately before the star reached the first wire. There being an interval of from 28*s*. to 40*s*. between every two successive transits, the level was read and reversed twice during those intervals. An interval of three minutes elapsing between the time of transit over the seventh wire and the time of return to the same wire after reversal, there is time to read the level, reverse the telescope, repoint it, and read and reverse the level again before commencing the observation in the reversed position of the telescope. This method was generally used by Newcomb, the other by Harkness.

One object of the new method was to test Struve's plan of reading the level before and after reversal of the telescope, without raising it from the axis. Such a set of level readings would then be taken in every observation by the new method. A comparison of 29 observations gave 0″.037 for the mean difference of results by the actual methods and that of Struve. To find the probable error of the former, each pair of level readings was assumed to give an independent result for level. Two such pairs being taken in each position of the telescope, it was found that the mean difference of results between the two pairs was 0″.118. The mean error of a single pair is therefore 0″.084, and the mean error of the eight pair taken during each observation 0″.030. This leaves for the residual error by Struve's method

$$\sqrt{0''.037^2 - 0''.030^2} = 0''.022.$$

As a further check upon the method the error of level of the instrument was determined by that method six times in succession on November 22, and four times on December 1, with the following results:

	″		″
November 22 - - -	+ 0.92	December 1 - - -	+ 0.35
	0.92		0.28
	0.87		0.30
	0.87		+ 0.40
	0.90		
	+ 0.92		

Before the last reading of December 1 a pivot of the instrument struck the Y laterally during reversal.

From these experiments it is concluded that discrepancies in the level determinations by the adopted method arise mainly from disturbances of the level produced by raising it from the pivots and setting it down again, and that the error in using Struve's method is practically insensible.

EXPLANATION OF THE OBSERVATIONS.

The first column gives the date on which the star crossed the meridian, between the transits over the Prime Vertical.

The three next columns need no explanation.

Columns 5 and 13, headed "Telescope," show whether the telescope was on the north or south side of the pier during the observations following in the same line.

In the columns "Times of transit," the recorded times of transit for each vertical are given from left to right in the order in which they occurred.

The level readings are each the mean of the four (or six) readings made in each vertical, and each position of the telescope. Columns N. give the mean of the readings on the north end of the level; columns S. that of the south readings.

The next column gives the mean error of level in each vertical, from the observations in both positions of the instrument.

The correction for level, given in the next column, is obtained by the formula

$$\delta \text{ Dec.} = 0''.984\ \delta b.$$

δb being the mean error of level, one division of which is assumed equal to a second of arc.

The apparent declination is obtained as follows:

Representing by φ the latitude of the instrument, by t and t_1 the observed times of the star's transit over a given thread in the east vertical before and after reversal of the instrument, and by t' and t'_1 the corresponding times at the west vertical, and making

$$s = \tfrac{1}{4}\,[\,(t'_1 - t) + (t' - t_1)\,];$$
$$u = \tfrac{1}{4}\,[\,(t'_1 - t) - (t' - t_1)\,];$$

we have

$$\tan \delta_0 = \tan \varphi \cos s \cos u.$$

The values of cos s and cos u are computed separately for each thread, and the mean result multiplied by the constant tan φ. The Prime Vertical Transit Instrument being forty-five feet south of the centre of the Mural Circle pier, its latitude has been assumed to be

$$38^\circ\ 53'\ 38''.80.$$

Then,

$$\text{Apparent declination} = \delta_0 + \text{correction for level.}$$

The correction for azimuth has been insensible during the year.

The reduction to 1860.0 has been computed by the formulæ of Bessel and Struve, using the proper motion found by Peters:

$$+\ 0''.2792.$$

Column "Weight" shows the excellence of the observations estimated by the observer at the time of making, on a scale of 1–5. 3 indicates an average observation. 2 and 4 indicate respectively an indifferent one and a good one; 1 and 5 a very poor one and a very good one.

The observers were: N., Prof. S. Newcomb. Ha., Prof. W. Harkness.

THE EQUATORIAL.

During the year 1864 the following asteroids have been observed with this instrument, to wit:

Egeria,	Eunomia,	Harmonia,
Eurynome,	Victoria,	Echo,
Concordia,	Psyche,	Ceres,
Phocœa,	Ariadne,	Amphitrite,
Europa,	Calypso,	Cybele,
Circe,	Pallas,	Fides,
Thetis,	Isis,	Fortuna,
Bellona,	Metis,	Euterpe, and
Juno,	Atalanta,	Terpsichore.

Of comets there have been observed that of Respighi, 1863, VI, and that of Tempel, 1864, I. Observations have also been continued on the Pleiades, in which group the places of thirty-two of the lesser stars have been determined. Much progress has likewise been made in similar work in the cluster of Præsepe, which was commenced during the present year, the places of more than ninety stars in this group having been determined. There have also been observed nineteen occultations of stars by the Moon.

The micrometer of the instrument contains the same number of transit and declination wires as at the end of the previous year.

The transit wires are five in number, and are designated by the letters a, A, B, C, c; the wire a being that over which a star first passes when the telescope is pointed south, the head of the micrometer-screw being turned downward. The equatorial intervals of these wires are as follows:

	s.
B − a =	12.19
B − A =	8.38
C − B =	8.42
c − B =	11.99

The declination wires are designated by the numbers 1, 2, 3, 4, 5; the wire 1 being that which is nearest the head of the micrometer-screw. Their intervals throughout the year have been:

	rev.
2 − 1 =	17.131
3 − 1 =	29.916
4 − 1 =	42.993
5 − 1 =	60.001

The value of a revolution of the micrometer-screw used in reducing these observations is the same as in the preceding year, or 15″.337.

The places of all the stars of comparison have been determined by the meridian instruments of the Observatory, either in this or the two following years. But as these determinations were not always available for the equatorial comparisons, the catalogue places were used for the first results, and these last subsequently corrected by the more recent data as soon as obtained. A list is appended (page 390) of the right ascensions as given by the transit of all the stars of comparison, from which may be immediately derived the slight correction necessary where the catalogue place has been used instead of the true one.

EXPLANATION OF THE PRINTED OBSERVATIONS.

Column 1 contains the date and initial letter of the observer's name, (F. for Mr. Ferguson, and H. for Prof. Hall;) column 2, the names of the objects compared; columns 3, 4, and 5, the seconds of the transits; column 6, the mean of these transits, with the hour and minute prefixed; column 7, the micrometer reading; columns 8 and 9, the observed difference in α and δ, the first expressed in minutes and seconds, the second in revolutions and decimals; column 10, or the remainder of the page, contains: The correction for the chronometer; the apparent place of the comparison star at the time of observation; the mean of the observed differences of α and δ between the object compared and the star of comparison; and the corrections for differential refraction ($\Delta\ \rho$) and for parallax (p.)

Where a mean time chronometer has been used in the observations, there is added a small correction ($\Delta\ t$) to reduce the mean to the sidereal interval.

The tabulated results (pages 377–389) show the mean time of the observations at Washington, the observed places of the body corrected for refraction and parallax, and the mean places of the stars of com arison for 1860, together with the authorities from whence they have been derived.

MEAN DECLINATIONS FOR 1860.0 OF STARS OBSERVED WITH THE MURAL CIRCLE.

This section gives the results of the separate observations of each star with the Mural Circle. The approximate right ascensions are generally those deduced from the observed time of transit over the middle wire, and are subject to a probable error of perhaps 2*s*. But the right ascensions of well-known stars are frequently those of catalogues.

The declinations are those given in the section "Observations with the Mural Circle," applying the reductions to 1860.0 in column 24, without further correction. Results of direct and reflection observations of stars are, it will be seen, classified separately, in order that they may be more easily compared.

COMPARISON OF OBSERVATIONS DIRECT AND BY REFLECTION.

The following table gives, for each star observed in both ways, the degree of zenith distance, the seconds of declination which result from the direct and reflection observations respectively, and the excess of direct over reflection results. This excess, it will be seen, is always counted in the same direction, namely, from the equator toward the pole, so that declinations observed below the pole are regarded as negative. During the period of variable nadir point previously referred to, the results of reflection observations are separated, and not combined with the others.

COMPARISON OF DIRECT AND REFLECTION DECLINATIONS OF STARS DEDUCED FROM OBSERVATIONS WITH THE MURAL CIRCLE IN 1864.

(Observations made between May 28 and July 4 omitted.)

SECONDS OF DECLINATION.						SECONDS OF DECLINATION.					
Name.	Z. D. N.	D.	R.	D—R.	Weight.	Name.	Z. D. N.	D.	R.	D—R.	Weight.
	°	"	"	"			°	"	"	"	
β Ursæ Minoris, S. P.	66	— 38.4	— 38.7	+ 0.3	1	τ Cassiopeæ	19	+ 21.2	+ 20.5	+ 0.7	2
50 Draconis, S. P.	66	59.5	61.6	+ 2.1	1	δ Ursæ Majoris	19	39.4	40.4	— 1.0	1
B. A. C. 3528, S. P.	58	2.7	3.2	+ 0.5	1	α Cassiopeæ	17	8.8	8.3	+ 0.5	2
δ Ursæ Minoris, S. P.	55	6.5	7.4	+ 0.9	3	η Persei	16	40.2	41.6	— 1.4	1
Polaris, S. P.	53	— 47.0	— 46.7	— 0.3	1	γ Ursæ Majoris	16	24.2	23.9	+ 0.3	2
Polaris	50	+ 47.5	+ 48.0	— 0.5	4	γ Draconis	13	24.1	25.3	— 1.2	1
λ Ursæ Minoris	50	25.5	25.0	+ 0.5	2	η Ursæ Majoris	11	48.2	47.7	+ 0.5	1
δ Ursæ Minoris	48	8.2	7.4	+ 0.8	3	ι Ursæ Majoris	9	17.6	17.6	0.0	1
B. A. C. 8213	48	7.4	7.8	— 0.4	1	δ Persei	8	11.1	10.3:	+ 0.8:	1
B. A. C. 7851	47	4.1	5.5	— 1.4	1	α Aurigæ	7	3.0	1.1	+ 1.9	3
1 (Hev.) Draconis	43	22.7	21.8	+ 0.9	2	α Cygni	6	54.3	52.6	+ 1.7	3
B. A. C. 1211	41	15.8	14.4	+ 1.4	2	α^2 Geminorum	7	29.5	29.6	— 0.1	1
4 (Hev.) Draconis	40	39.8	39.2	+ 0.6	1	ζ Cygni	9	16.3	16.2	+ 0.1	3
5 Ursæ Minoris	37	5.2	6.5	— 1.3	1	β Tauri	10	6.8	7.2	— 0.4	1
β Ursæ Minoris	36	39.3	40.9	— 1.6	1	α Andromedæ	11	2.4	3.1	— 0.7	2
B. A. C. 8314	35	54.2	52.9	+ 1.3	2	μ Leonis	12	52.1	51.0	+ 1.1	1
ψ^1 Draconis	33	58.4	57.6	+ 0.8	1	ε Leonis	14	1.9	1.7	+ 0.2	1
B. A. C. 7124	33	25.5	25.8	— 0.3	1	28 Tauri	15	21.5	19.1	+ 2.4	1
50 Cassiopeæ	33	27.6	28.6	— 1.0	2	η Tauri	15	10.2	8.4	+ 1.8	3
11 Cephei	32	4.7	2.7	+ 2.0	1	27 Tauri	15	20.0	20.8	— 0.8	1
ε Draconis	31	43.5	40.8	+ 2.7	1	α Arietis	16	55.5	55.1	+ 0.4	3
55 Camelopardali	30	51.0	51.0	0.0	1	20 Com. Ber.	17	19.0	17.6	+ 1.4	1
ι Cassiopeæ	28	13.2	11.9	+ 1.3	1	α Bootis	19	38.7	37.7	+ 1.0	1
α Camelopardali	27	57.0	54.6	+ 2.4	1	δ^1 Tauri	22	40.4	38.6	+ 1.8	2
α Draconis	26	45.3	47.1	— 1.8	1	γ Geminorum	22	54.8	53.9	+ 0.9	1
ε Cassiopeæ	24	43.4	42.5	+ 0.9	3	χ Tauri	23	28.7	28.0	+ 0.7	3
α Ursæ Majoris	24	21.8	21.5	+ 0.3	3	β Leonis	24	17.2	16.4	+ 0.8	1
α Cephei	23	36.2	35.8	+ 0.4	2	11 Orionis	24	22.2	20.4	+ 1.8	1
η Draconis	23	55.6	55.4	+ 0.2	1	η Piscium	24	23.1	22.1	+ 1.0	1
η Cephei	22	49.5	51.0	— 1.5	2	α Herculis	24	10.9	10.7	+ 0.2	2
β Camelopardali	21	+ 56.3	+ 54.2	+ 2.1	2	α Pegasi	24	+ 10.4	+ 8.5	+ 1.9	1

COMPARISON OF DIRECT AND REFLECTION DECLINATIONS OF STARS DEDUCED FROM OBSERVATIONS WITH THE MURAL CIRCLE IN 1864.

(Observations made between May 28 and July 4 omitted.)

SECONDS OF DECLINATION.						SECONDS OF DECLINATION.					
Name.	Z. D. N.	D.	R.	D—R.	Weight.	Name.	Z. D. N.	D.	R.	D—R.	Weight.
	°	"	"	"			°	"	"	"	
γ Pegasi	24	+ 19.4	+ 18.7	+ 0.7	2	α Canis Minoris	33	+ 46.5	+ 46.4	+ 0.1	1
α Ophiuchi	26	55.2	53.0	+ 2.2	1	ν Piscium	34	+ 41.2	+ 40.9	+ 0.3	1
α Leonis	26	61.6	59.9	+ 1.7	1	η Aquarii	39	— 16.1	— 16.8	+ 0.7	1
ζ Pegasi	29	6.5	6.3	+ 0.2	2	κ Aquilæ	45	6.7	8.7	+ 2.0	1
o Virginis	29	40.9	41.1	— 0.2	1	α Hydræ	46	12.5	13.2	+ 0.7	1
ε Pegasi	30	6.6	6.9	— 0.3	1	β Orionis	46	57.7	60.3	+ 2.6	1
α Aquilæ	30	8.4	7.3	+ 1.1	2	μ Aquarii	47	20.7	22.3	+ 1.6	1
ξ^2 Ceti	31	51.0	50.0	+ 1.0	1	α Virginis	48	45.1	46.0	+ 0.9	1
α Orionis	32	41.2	38.4	+ 2.8	2	α^2 Capricorni	51	32.2	32.8	+ 0.6	2
δ Piscium	32	22.1	20.8	+ 1.3	1	α Canis Majoris	54	— 41.6	— 43.4	+ 1.8	3
β Aquilæ	33	+ 34.8	+ 33.3	+ 1.5	1						

Between May 28 and July 4.

Polaris, S. P.	53	— 48.5	— 43.4	— 5.1	3	ε Serpentis	34	+ 7.3	+ 4.7	+ 2.6	1
4 Ursæ Minoris	39	+ 17.5	+ 21.2	— 3.7	3	ζ Virginis	39	16.1	16.2	— 0.1	1
5 Ursæ Minoris	37	5.5	8.3	— 2.8	3	α Libræ	54	26.2	27.6	+ 1.4	1
β Ursæ Minoris	36	39.7	41.3	— 1.6	2	β Scorpii	58	11.1	13.0	+ 1.9	1
γ^2 Ursæ Minoris	33	54.8	57.8	— 3.0	1	α Scorpii	65	+ 2.7	+ 4.1	+ 1.4	2
α Coronæ Bor.	12	+ 15.0	+ 19.4	— 4.4	1						

The weights are not assumed proportional to the number of observations, but according to the following scale:

No. of obs.	Weight.
1	1
2— 3	2
4— 7	3
8—18	4
19—∞	5

It will be observed that there is a large excess of positive signs, especially in the south, the average value of the difference being about half a second in the north and a second in the south. To show more exactly the law which they follow, the means have been taken for every 5°, with the following result:

Z. D N.	D—R.	Weight.	Z. D. S.	D—R.	Weight.
° °	"		° °	"	
—66	+ 1.2	2	5— 9	0.0:	4
59—55	+ 0.8	5	10—14	— 0.1	5
54—50	— 0.2	7	15—19	+ 1.1	10
49—45	+ 0.1	5	20—24	+ 1.0	14
44—40	+ 1.0	5	25—29	+ 0.8	5
39—35	— 0.1	4	30—34	+ 1.2	10
34—30	+ 0.5	7	35—39	+ 0.7	1
29—25	+ 0.6	3	40—44		
24—20	+ 0.4	13	45—49	+ 1.6	5
19—15	+ 0.1	8	50—54	+ 0.2	2
14—10	— 0.4	2			
9— 5	+ 1.4:	8			

The observations are not yet sufficiently numerous to give the law of the difference with exactness in every part of the circle. It is probable, however, that they proceed, in part at least, from errors of division. So far as this is the case, they ought to repeat themselves at the end of every 60°. The following is a com-

parison of the differences of the results for corresponding parts of the circle in each 5° on the two sides of the zenith:

Z. D. N.	Z. D. S.	D—R. (S—N.)	Weight.
°	°		
52	7	+ 0.2:	5
47	12	— 0.2	5
42	17	+ 0.1	7
37	22	+ 1.1	6
32	27	+ 0.3	6
27	32	+ 0.6	5
22	37	+ 0.3	2
17	42		
12	47	+ 2.0	3
7	52	— 0.2:	3

Reflection observations within ten degrees of the zenith are liable to some suspicion from the circumstance that the light is cut off from a portion of the object glass by the interference of the mounting of the glass itself with a portion of the pencil of light falling on the mercury. Consequently, if the focus of the instrument is not accurately adjusted, (and it is doubtful whether the focus of any instrument can be relied on as exact at all temperatures,) the observation will be vitiated. Omitting the first and last numbers of the series, it seems that the values of D—R south of the zenith are on the average 0″.52 greater than those north of the zenith. Combining with the results of D—R in the south the values found for 60° further north increased by 0″.5, we have the following table of differences from the zenith to 60° south; half weight has been given to observations by reflection within 10° of the zenith.

Z. D. S.	D—R.	Z. D. N.	D—R.
°	″	°	″
2	+ 1.3	57	+ 0.8
7	0.2	52	— 0.3
12	0.2	47	— 0.3
17	1.3	42	+ 0.8
22	0.8	37	0.3
27	0.9	32	0.4
32	1.1	27	0.6
37	0.9	22	0.4
42	1.6	17	1.1
47	1.2	12	0.7
52	+ 1.6	7	+ 1.1
		2	

Supposing the errors, S and N, to go through a regular period of 60°, the following table has been constructed by a curve. It gives the most probable correction to be applied to direct observations in order to reduce them to the mean of direct and reflection results. The argument is the declination.

CORRECTIONS APPLIED TO DIRECT OBSERVATIONS OF DECLINATION.

(For reflection observations the sign is reversed.)

°	″	°	″	°	″	°	″	°	″
— 42	— 0.5	— 6	— 0.6	+ 28	— 0.1	+ 60	— 0.4	S.P.86	+ 0.2
40	0.4	4	0.6	30	0.1	62	0.4	84	0.2
38	0.3	— 2	0.5	32	0.2	64	0.3	82	0.3
36	0.2	0	0.5	34	0.2	66	0.3	80	0.4
34	0.2	+ 2	0.5	36	0.2	68	0.3	78	0.4
30	0.2	4	0.5	38	0.2	70	0.3	76	0.4
28	0.3	6	0.5	40	0.2	72	0.3	74	0.5
26	0.3	8	0.5	42	0.2	74	0.2	72	0.5
24	0.3	10	0.5	44	0.2	76	0.2	70	0.5
22	0.3	12	0.5	46	0.3	78	0.2	68	0.5
20	0.3	14	0.5	48	0.3	80	0.2	66	0.5
18	0.4	16	0.5	50	0.3	82	0.1	64	0.5
16	0.4	18	0.5	52	0.3	84	0.0	62	0.5
14	0.5	20	0.5	54	0.4	86	+ 0.1	60	0.5
12	0.5	22	0.4	56	0.4	88	0.1	58	0.4
10	0.6	24	0.3	58	0.4	+ 90	0.0	56	0.4
— 8	— 0.6	+ 26	— 0.2	+ 60	— 0.4	S.P.88	+ 0.1	S.P.54	+ 0.4

OBSERVED RIGHT ASCENSIONS, DECLINATIONS, AND SEMI-DIAMETERS OF THE SUN, MOON, AND PLANETS.

The results of observations of these bodies with the Transit Instrument and the Mural Circle will be found on pages 363 to 376. The mean times of transit of the Sun, Moon, and larger planets, have been taken without change from the American Ephemeris; those of the small planets from the supplements to the Nautical Almanac, or Berlin Jahrbuch.

The columns headed "Limb" indicate the limb observed, blanks implying that either the centre or both limbs have been observed.

When the centre was observed the right ascension has been transcribed without change from the section "Observations with the Meridian Transit Instrument." When only one limb was observed the correction for semi-diameter in the last column has been applied. When both limbs were observed, one being defective, the correction for defective illumination has been computed by the usual methods.*

The observed declinations have been deduced from those of the section "Observations with the Mural Circle," by applying to the latter the following corrections:

1. The correction for discordance of direct and reflection observations, from the table, page xxxvi.

2. When only one limb of the Sun was observed, a correction due to personal difference between the mean semi-diameter of the year, deduced from the observations of each separate observer, and that of the American Ephemeris. The several corrections were as follows:

Observer.		Correction to Sun's semi-diameter in American Ephemeris.
N.	+ 1″.22	
Ha.	+ 0.56	
D.	+ 1.52	

3. In the case of the asteroids, the correction for parallax.

The columns C — O show the errors of the tabular positions of the bodies observed as they result from the observations. The Sun, Moon, and larger planets, are compared with the American Ephemeris; Ceres, Juno, and Vesta, with the Supplement to the Nautical Almanac for 1868; and the other small planets, with the Supplement to the Berlin Jahrbuch for 1866. A comparison of the observed positions of the Moon with Hansen's tables is also given. This comparison was not made directly, but, to obtain the positions from Hansen's tables, the positions of the American Ephemeris are increased by the difference between the American Ephemeris and the Nautical Almanac at that Greenwich hour nearest the absolute time of Washington transit, a correction of ± 0″.3 being further applied for difference of tabular semi-diameters. In 1862 it was found that the results thus obtained were substantially identical with those obtained by direct computation.

* Washington Observations for 1863, p. xlii.

CATALOGUE OF STARS OBSERVED IN THE YEAR 1864.

The magnitudes given in this Catalogue are exclusively those which result from the estimates given in the preceding sections.

The right ascensions are deduced from those of the section "Mean Places for 1860.0 of Stars observed with the Transit Instrument," without change.

The declinations are obtained from those in the section "Mean Declinations for 1860.0 of Stars observed with the Mural Circle," applying the correction for discordance of direct and reflection observations (page xxxvi.) Observations of different classes were combined as follows:

1. In combining direct and reflection observations the weights were assumed not proportional to the number of observations, but according to the scale given in the comparison of direct and reflection observations.

2. Observations made between May 28 and July 5 are allowed a weight of but $\frac{1}{5}$ when combined with those made without those limits. But when a star was observed both directly and by reflection at the same transit, the mean of the two was considered equivalent to two good observations, and therefore received the weight 2.

Observations above and below the pole are kept entirely separate.

APPENDIX.

INVESTIGATION OF THE LATITUDE AND LONGITUDE

OF THE

U. S. NAVAL OBSERVATORY, WASHINGTON,

AND OF

THE DECLINATIONS OF CERTAIN CIRCUMPOLAR STARS.

BY PROFESSOR SIMON NEWCOMB, U. S. N.

APPENDIX.

INVESTIGATION OF THE LATITUDE AND LONGITUDE OF THE UNITED STATES NAVAL OBSERVATORY, WASHINGTON, AND OF THE DECLINATIONS OF CERTAIN CIRCUMPOLAR STARS.

The observations on which this determination is founded were made with the mural circle of the Observatory from the year 1861 to 1864, inclusive. After October, 1863, many observations were made by reflection from mercury for the purpose of comparing their results with those of observations made directly Few observations, however, could be made in this way on stars below the pole.

The following table exhibits pretty completely the data on which the result is founded. It is believed to include every star observed both above and below the pole during the period in question, except a single one, omitted accidentally. On the same line with the name of each star is given—

1. Its approximate right ascension, and the degrees and minutes of its declination for 1860.0.

2. The proper motion adopted for the reduction of the observations to the epoch 1860.0.

3. The seconds of mean declination for 1860.0 which result from observations made above the pole in the different years, corrected for proper motion, and for the discordance of direct and reflection observations. For the years 1861–'62–'63 the correction for discordance is that deduced from the observations for 1863, namely, the constant $-0''.20$ for all direct declinations above the pole, and $+0''.20$ for reflection observations. Considerable uncertainty rests upon the value of this correction for the first two years, for which reason quite small weights are assigned to observations made in those years.

In 1864 the reflection observations were sufficiently numerous to give quite reliable values of the regular discordances between the two classes of observations, but the results for this year were not considered applicable to the observations of previous years, because the position of the telescope on the circle was changed in the beginning of 1864. The table of corrections is that used in constructing the general star catalogue of the year.

The mean of an indefinite number of direct and reflex observations has been considered as giving the true result. Although this hypothesis may not be strictly correct, it is probably very nearly so. Of the various personal and instrumental causes to which we can ascribe the discordance, most will act in opposite directions in the two classes of observations, while none will act in the same direction.

The small figures after the separate results indicate the relative weights which have been assigned them. The relation between the weights and the number of observations in the different years is as follows:

Weight.	No. obs. in different years.		
	1861–'62.	1863.	1864.
1	1 or 2	1 or 2	1
2	above 2	3 to 5	2 or 3
3	- - -	above 5	4 to 7
4	- - -	- - -	8 to 20
5	- - -	- - -	above 20

4. The concluded seconds of declination corresponding to the assumed latitude, namely 38° 53′ 39″.25.

On the line below the preceding are given the values of the same quantities which result from observations below the pole.

Next we have the difference of results above and below the pole, which is equal to twice the correction of latitude.

Finally, we have the weight given to this correction, allowing the result from no one star a weight greater than 10.

Star.	R. A.	Dec.	P. M.	SECONDS OF DECLINATION FOR 1860.0.							$2\Delta\lambda$.	W.
				1861.	1862.	1863 D.	1863 R.	1864 D.	1864 R.	Concl'd.		
	h. m.	° ′	″	″	″	″	″	″	″	″	″	
λ Urs. Min.	20 3	88 53	+ 0.01	- -	25.0$_1$	[23.9$_3$	- -	25.6$_3$	24.9$_1$	24.80	— 0.73	4
S. P.	- -	- -	- -	- -	23.8$_1$	- -	- -	24.2$_2$	- -	24.07		
Polaris	1 8	88 33	0.01	47.4$_2$	48.0$_2$	46.9$_3$	48.0$_2$	47.6$_4$	47.9$_3$	47.60	0.54	10
S. P.	- -	- -	- -	47.0$_2$	46.6$_2$	47.6$_3$	- -	47.1$_4$	46.7$_2$	47.06		
51 (Hev.) Cephei	6 33	87 14	0.00	- -	54.5$_1$	53.1$_1$	- -	55.6$_2$	- -	54.70	0.80	4
S. P.	- -	- -	- -	52.8$_1$	53.8$_2$	55.0$_2$	- -	53.0$_1$	- -	53.90		
δ Urs. Min.	18 16	86 36	0.02	7.8$_2$	7.9$_2$	7.5$_2$	- -	8.2$_4$	7.2$_2$	7.80	0.78	8
S. P.	- -	- -	- -	- -	7.0$_2$	8.2$_1$	- -	6.6$_3$	7.1$_2$	7.02		
B. A. C. 8213	23 28	86 32	0.02	- -	- -	6.7$_2$	7.1$_2$	7.4$_2$	7.6$_1$	7.1	1.1	4
S. P.	- -	- -	- -	- -	- -	- -	- -	6.0$_3$	- -	6.0		
B. A. C. 7851	22 24	85 24	+ 0.01	- -	5.7$_1$	5.3$_2$	6.7$_1$	4.2$_1$	5.4$_1$	5.4	— 1.4	3
S. P.	- -	- -	- -	- -	- -	- -	- -	4.0$_2$	- -	4.0		
B. A. C. 3495	10 8	84 57	— 0.07	- -	33.2$_1$	- -	- -	32.7$_1$	- -	33.0	+ 0.2	2
S. P.	- -	- -	- -	- -	- -	33.6$_1$	32.8$_1$	- -	- -	33.2		
B. A. C. 4342	12 48	84 10	0.02	- -	- -	- -	- -	26.9$_2$	- -	26.9	— 1.2	2
S. P.	- -	- -	- -	- -	- -	25.7$_2$	- -	- -	- -	25.7		
B. A. C. 3528	10 13	83 16	0.07	- -	- -	- -	- -	5.4$_1$	- -	5.4	2.4	1
S. P.	- -	- -	- -	- -	- -	- -	- -	2.9$_2$	3.3$_1$	3.0		
B. A. C. 2326	7 0	82 40	— 0.02	- -	- -	- -	- -	5.6$_2$	- -	5.6	0.5	1
S. P.	- -	- -	- -	- -	- -	- -	- -	5.1$_1$	- -	5.1		
B. A. C. 7990	22 48	82 24	+ 0.07	- -	- -	39.8$_1$	38.4$_1$	- -	- -	39.1	0.6	2
S. P.	- -	- -	- -	- -	- -	- -	- -	38.5$_2$	- -	38.5		
ε Urs. Min.	17 1	82 15	0.00	- -	40.9$_2$	39.9$_2$	- -	41.7$_2$	- -	40.8	1.4	5
S. P.	- -	- -	- -	- -	39.1$_1$	- -	- -	39.5$_4$	- -	39.4		
76 Draconis	20 53	82 0	+ 0.03	- -	- -	35.4$_1$	35.1$_1$	35.1$_1$	- -	35.2	1.1	2
S. P.	- -	- -	- -	- -	- -	- -	- -	34.1$_2$	- -	34.1		
1 (Hev.) Drac.	9 17	81 56	0.00	- -	20.9$_2$	- -	- -	22.6$_3$	21.9$_1$	21.9	0.9	5
S. P.	- -	- -	- -	- -	22.0$_1$	21.2$_2$	20.4$_2$	- -	- -	21.0		
B. A. C. 7299	20 54	80 1	— 0.05	- -	- -	30.3$_2$	31.7$_1$	- -	- -	30.8	0.8	2
S. P.	- -	- -	- -	- -	- -	- -	- -	30.0$_2$	- -	30.0		
B. A. C. 2095	6 22	79 42	0.61	- -	- -	- -	- -	17.1$_2$	- -	17.1	0.1	2
S. P.	- -	- -	- -	- -	- -	- -	- -	17.0$_2$	- -	17.0		
4 (Hev.) Drac.	12 6	78 23	0.01	- -	41.6$_2$	40.3$_1$	- -	39.5$_2$	38.5$_2$	39.9	0.9	4
S. P.	- -	- -	- -	38.0$_1$	- -	39.1$_1$	40.0$_1$	- -	- -	39.0		
ζ Urs. Min.	15 49	78 13	0.00	- -	24.4$_1$	23.1$_1$	- -	- -	- -	23.8	0.5	3
S. P.	- -	- -	- -	22.7$_2$	- -	- -	- -	23.8$_2$	- -	23.3		
4 Urs. Min.	14 9	78 12	0.01	- -	- -	- -	- -	19.6$_1$	19.9$_2$	19.8	1.6	3
S. P.	- -	- -	- -	- -	- -	18.6$_1$	18.7$_1$	17.2$_1$	- -	18.2		
κ Cephei	20 14	77 17	0.00	- -	15.6$_1$	16.9$_2$	- -	- -	- -	16.5	— 1.1	2
S. P.	- -	- -	- -	- -	- -	- -	- -	15.4$_2$	- -	15.4		
48 (Hev.) Cephei	3 3	77 12	— 0.06	50.4$_1$	- -	- -	- -	- -	- -	50.4	+ 0.2	1
S. P.	- -	- -	- -	- -	50.6$_1$	50.6$_2$	- -	- -	- -	50.6		
γ Cephei	23 34	76 51	+ 0.15	4.7$_2$	- -	4.1$_2$	4.1$_2$	- -	- -	4.3	— 0.5	3
S. P.	- -	- -	- -	- -	- -	- -	- -	3.8$_2$	- -	3.8		
9 (Hev.) Drac.	10 23	76 25	— 0.03	- -	- -	- -	- -	56.5$_2$	- -	56.5	1.7	2
S. P.	- -	- -	- -	- -	- -	55.1$_1$	54.5$_1$	- -	- -	54.8		
5 Urs. Min.	14 28	76 19	— 0.02	- -	6.0$_2$	5.5$_2$	- -	- -	6.6$_4$	6.2	1.0	4
S. P.	- -	- -	- -	5.3$_1$	- -	5.2$_1$	3.7$_1$	5.6$_3$	- -	5.2		
η Urs. Min.	16 22	76 4	+ 0.20	- -	- -	- -	- -	34.5$_1$	- -	34.5	1.1	1
S. P.	- -	- -	- -	- -	- -	- -	- -	33.4$_2$	- -	33.4		
50 Draconis	18 51	75 15	+ 0.06	- -	- -	58.1$_1$	64.0$_1$	62.3$_3$	- -	61.8	1.6	4
S. P.	- -	- -	- -	- -	60.7$_1$	- -	- -	59.6$_2$	60.9$_1$	60.2		
B. A. C. 1706	5 21	74 56	0.00	- -	- -	- -	- -	32.2$_1$	- -	32.2	1.4	2
S. P.	- -	- -	- -	- -	30.6$_2$	- -	- -	31.0$_2$	- -	30.8		
β Urs. Min.	14 51	74 43	— 0.03	40.6$_2$	39.7$_2$	39.6$_2$	- -	39.1$_1$	40.5$_3$	40.0	1.0	6
S. P.	- -	- -	- -	38.3$_2$	39.8$_2$	39.6$_1$	- -	39.0$_2$	38.3$_1$	39.0		
21 Cassiopeæ	0 36	74 13	0.06	19.8$_2$	- -	18.6$_1$	- -	- -	- -	19.4	1.8	1
S. P.	- -	- -	- -	- -	17.6$_1$	- -	- -	- -	- -	17.6		
B. A. C. 8314	23 48	73 37	— 0.03	- -	- -	- -	52.4$_1$	54.1$_2$	53.2$_2$	53.4	1.0	4
S. P.	- -	- -	- -	- -	50.3$_1$	- -	- -	53.1$_3$	- -	52.4		
79 Draconis	21 51	73 2	0.00	- -	- -	25.8$_2$	26.6$_2$	- -	26.2	26.2	1.7	2
S. P.	- -	- -	- -	- -	- -	- -	- -	24.5$_1$	- -	24.5		

Star.	R. A.	Dec.	P. M.	SECONDS OF DECLINATION FOR 1860.0.						Concl'd.	2 Δ λ.	W.
				1861.	1862.	1863 D.	1863 R.	1864 D.	1864 R.			
	h. m.	° ′	″	″	″	″	″	″	″	″	″	
γ Urs. Min.	15 21	72 19	+ 0.03	- -	55.5$_2$	54.5$_1$	- -	- -	55.9$_2$	55.5	— 0.4	3
S. P.	- -	- -	- -	54.6$_1$	- -	- -	- -	55.4$_2$	- -	55.1		
11 Urs. Min.	15 17	72 19	+ 0.01	- -	54.2$_1$	- -	- -	- -	- -	54.2	+ 0.4	1
S. P.	- -	- -	- -	- -	- -	55.1$_1$	- -	54.1$_1$	- -	54.6		
ψ^1 Draconis	17 44	72 12	— 0.26	- -	- -	- -	- -	59.2$_2$	59.0$_1$	59.1	— 0.9	2
S. P.	- -	- -	- -	- -	- -	- -	- -	58.2$_2$	- -	58.2		
B. A. C. 7124	20 31	72 3	— 0.02	- -	26.4$_1$	25.3$_2$	- -	25.3$_9$	26.2$_1$	25.7	— 1.5	3
S. P.	- -	- -	- -	- -	- -	- -	- -	24.2$_2$	- -	24.2		
50 Cassiopeæ	1 51	71 44	0.00	- -	26.3$_1$	28.7$_1$	- -	27.3$_2$	28.9$_2$	27.9	+ 0.7	3
S. P.	- -	- -	- -	- -	- -	28.8$_1$	- -	28.3$_1$	- -	28.6		
11 Cephei	21 40	70 40	+ 0.07	- -	- -	2.5$_1$	- -	4.1$_1$	2.7$_1$	3.1	— 0.9	2
S. P.	- -	- -	- -	- -	- -	- -	- -	2.2$_2$	- -	2.2		
κ Draconis	12 27	70 33	— 0.02	- -	38.0$_1$	38.0$_1$	- -	- -	- -	38.0	— 2.0	2
S. P.	- -	- -	- -	35.6$_2$	- -	36.5$_2$	- -	- -	- -	36.0		
d Urs. Maj.	9 22	70 26	+ 0.05	- -	- -	- -	- -	31.6$_1$	- -	31.6	+ 0.2	1
S. P.	- -	- -	- -	- -	- -	31.8$_1$	- -	- -	- -	31.8		
β Cephei	21 27	69 56	— 0.04	47.8$_2$	- -	48.3$_2$	48.3$_2$	- -	- -	48.1	— 0.7	3
S. P.	- -	- -	- -	- -	- -	- -	- -	47.4$_2$	- -	47.4		
A Cassiopeæ	1 21	69 32	0.08	- -	30.3$_1$	- -	- -	32.8$_1$	- -	31.6	1.8	2
S. P.	- -	- -	- -	- -	- -	29.5$_1$	- -	30.0$_2$	- -	29.8		
55 Camelop.	7 59	68 52	— 0.10	- -	- -	- -	- -	51.1$_1$	51.7$_1$	51.4	1.2	2
S. P.	- -	- -	- -	- -	49.2$_1$	- -	- -	50.6$_2$	- -	50.2		
ω Draconis	17 38	68 49	+ 0.29	- -	20.5$_2$	19.5$_1$	- -	21.3$_2$	- -	20.6	1.0	3
S. P.	- -	- -	- -	- -	- -	- -	- -	19.6$_2$	- -	19.6		
B. A. C. 5406	16 6	68 10	+ 0.07	- -	45.0$_2$	- -	- -	- -	- -	45.0	0.4	2
S. P.	- -	- -	- -	44.7$_1$	- -	- -	- -	44.5$_2$	- -	44.6		
σ Urs. Maj.	8 58	67 42	— 0.09	- -	- -	- -	- -	57.1$_1$	- -	57.1	2.4	1
S. P.	- -	- -	- -	- -	- -	- -	- -	54.7$_2$	- -	54.7		
δ Draconis	19 13	67 24	+ 0.07	- -	53.1$_1$	- -	- -	56.6$_2$	- -	56.1	1.9	1
S. P.	- -	- -	- -	- -	- -	- -	- -	54.2$_1$	- -	54.2		
a Camelop.	4 40	66 5	+ 0.01	- -	- -	- -	- -	56.7$_2$	54.8$_1$	56.1	3.6	2
S. P.	- -	- -	- -	- -	52.5$_2$	- -	- -	- -	- -	52.5		
ι Cephei	22 45	65 27	— 0.14	- -	- -	53.0$_2$	53.1$_1$	54.0$_1$	54.5$_1$	53.5	2.2	3
S. P.	- -	- -	- -	- -	- -	- -	- -	51.3$_2$	- -	51.3		
a Draconis	14 1	65 2	0.03	- -	45.1$_2$	44.9$_2$	- -	45.1$_1$	47.6$_1$	45.5	1.1	4
S. P.	- -	- -	- -	- -	- -	42.7$_1$	- -	44.9$_3$	- -	44.4		
ε Cassiop.	1 44	62 58	0.00	- -	- -	44.5$_1$	42.3$_1$	43.0$_2$	43.3$_2$	43.2	3.7	2
S. P.	- -	- -	- -	- -	- -	- -	- -	39.5$_1$	- -	39.5		
a Urs. Maj.	10 55	62 30	0.09	24.1$_1$	- -	22.2$_1$	- -	21.8$_3$	22.3$_2$	22.2	1.7	5
S. P.	- -	- -	- -	20.0$_2$	- -	20.3$_2$	- -	21.3$_2$	- -	20.5		
β Cassiopeæ	0 2	58 22	— 0.17	- -	- -	39.7$_1$	- -	- -	- -	39.7	0.2	1
S. P.	- -	- -	- -	- -	- -	- -	- -	39.5$_1$	- -	39.5		
τ Cassiopeæ	23 40	57 52	+ 0.06	- -	- -	20.5$_1$	- -	20.4$_2$	20.6$_2$	20.5	1.6	3
S. P.	- -	- -	- -	- -	- -	- -	- -	18.9$_2$	- -	18.9		
δ Urs. Maj.	12 8	57 48	— 0.06	- -	- -	- -	- -	39.3$_1$	40.4$_1$	39.8	1.9	1
S. P.	- -	- -	- -	- -	- -	37.9$_1$	- -	- -	- -	37.9		
β Urs. Maj.	10 54	57 7	+ 0.03	- -	- -	- -	- -	54.4$_1$	- -	54.4	2.6	1
S. P.	- -	- -	- -	- -	- -	51.8$_2$	- -	- -	- -	51.8		
ξ Draconis	17 51	56 53	+ 0.06	- -	- -	- -	- -	44.3$_1$	- -	44.3	1.7	1
S. P.	- -	- -	- -	- -	- -	- -	- -	42.6$_1$	- -	42.6		
γ Urs. Maj.	11 46	54 28	— 0.02	- -	- -	- -	- -	23.7$_2$	24.5$_2$	24.0	— 5.8	3
S. P.	- -	- -	- -	- -	- -	18.2$_2$	- -	- -	- -	18.2		

Dividing the preceding list into groups, each of which occupies five degrees of declination, and taking the mean by weights, we have the following results for the double correction of latitude given by stars at different distances from the pole.

Limits of Dec.	2 Δ λ.	Total weight.
° °	″	
85 — 90	— 0.77	33
80 — 85	0.97	22
75 — 80	1.00	29
70 — 75	0.89	32
65 — 70	1.50	23
60 — 65	2.27	7
55 — 60	1.60	7
51 — 55	— 5.8	3

An increase in the value of the correction as we leave the pole is quite well marked. If the instrumental errors were perfectly determined we might attribute this to a small error in Bessel's constant of refraction as applied to this Observatory. But, since nothing is known of the errors of division and flexure of the circle, except that they are very small, and the zenith distance of our pole is too great to allow of our obtaining any reliable correction to the constant of refraction from observations of circumpolar stars, we shall deduce the correction of latitude on the supposition that the constant of refraction is correct. For this purpose we shall give the correction derived from corresponding numbers of observations a weight diminishing as we approach the horizon, slowly at first, but more rapidly afterward, so as to vanish at an altitude of 5°. The different corrections, with the weights assigned, will then be as follows:

Limits of Dec.	$\Delta\lambda$.	W′	W″	W	W × $\Delta\lambda$.
	″				″
85 — 90	— 0.39	33	1.0	33	— 12.8
80 — 85	0.48	22	1.0	22	10.6
75 — 80	0.47	29	0.8	23	10.8
70 — 75	0.44	32	0.6	19	8.4
65 — 70	0.75	23	0.4	9	6.7
60 — 65	1.14	7	0.2	1	— 1.1
55 — 60	— 0.80	7	0.0	0	0.0
Σ	- - -	- - -	- - -	107	50.4

And the concluded correction to the assumed latitude is

$$-0''.47.$$

Making the concluded latitude of the Observatory

$$38° 53' 38''.78 \text{ N.}$$

Considering how small the discrepancies of those four determinations which enter into the result with the largest weight, I think we may safely say that (the possible error of refraction excepted) this determination cannot be in error by much more than one-tenth of a second.

§ 2.

DECLINATIONS OF THE STARS USED IN THE ABOVE DETERMINATION.

Correcting the declinations for the error of latitude, the results of observations above and below the pole are as in the following table This gives (1) the seconds of declination concluded from all the upper culminations, with the weight; (2) the same quantities deduced from the inferior culminations; (3) the concluded declination for 1860.0, with the final weight of this result; and (4) the correction to Dr. Gould's positions, as adopted in the American Ephemeris. In forming (3), as in combining for latitude, the value of an observation below the pole, has been supposed to diminish as we approach the horizon, vanishing entirely at an altitude of 5°.

It will be seen that the corrections (4) do not strictly correspond to the epoch 1860.0, but to that of the mean of the observations, which may be taken as 1864.0 without any uncertainty comparable with that of the determination itself.

The probable instrumental error of each determination may be roughly estimated at $\frac{0''.6}{\sqrt{W}}$. This, of course, does not include the possible error arising from atmospheric causes.

Name.	R. A.	(1)		(2)		(3)		(4)
		Dec. U. C.	Wt.	Dec. L. C.	Wt.	Concluded declination. (1860. 0.)	Wt.	Correction to Gould.
	h. m.					° ′ ″		″
β Cassiopeæ	0 2	39.2	1	40.0	1	58 22 39.4	1	
21 Cassiopeæ	0 36	18.9	3	18.1	1	74 13 18.7	4	+ 1.0
Polaris	1 8	47.12	10	47.54	10	88 33 47.33	20	+ 0.14
A Cassiopeæ	1 21	31.1	2	30.3	2	69 32 30.8	3	— 1.2
ε Cassiopeæ	1 44	42.7	6	40.0	1	62 58 42.6	6	
50 Cassiopeæ	1 51	27.4	6	29.1	2	71 44 27.8	7	+ 0.5
48 Cassiopeæ	3 3	49.9	1	51.1	2	77 12 50.7	3	+ 0.8
a Camelopardis	4 40	55.6	3	53.0	2	66 5 54.6	4	— 0.8
B. A. C. 1706	5 21	31.7	1	31.3	4	74 56 31.4	3	— 0.6
B. A. C. 2095	6 22	16.6	2	17.5	2	79 42 17.0	4	
51 (Hev.) Cephei	6 34	54.22	4	54.38	6	87 14 54.32	10	+ 0.12
B. A. C. 2326	7 0	5.1	2	5.6	1	82 40 5.3	3	
55 Camelopardis	7 59	50.9	2	50.7	3	68 52 50.8	4	+ 0.9
σ^2 Ursæ Majoris	8 58	56.6	1	55.2	2	67 41 55.9	2	+ 1.6
1 (Hev.) Draconis	9 17	21.4	6	21.5	5	81 56 21.4	10	— 1.2
d Ursæ Majoris	9 22	31.1	1	32.3	1	70 26 31.6	2	0.0
B. A. C. 3495	10 8	32.5	2	33.7	2	84 57 33.1	4	
B. A. C. 3528	10 13	4.9	1	3.5	3	83 16 3.9	3	
9 (Hev.) Draconis	10 23	56.0	2	55.3	2	76 25 55.7	4	+ 0.6
β Ursæ Majoris	10 54	53.9	1	52.3	2	57 7 53.2	2	
a Ursæ Majoris	10 55	21.7	7	21.0	6	62 30 21.4	12	
γ Ursæ Majoris	11 47	23.5	3	18.7	2	54 28 23.5	3	
4 (Hev.) Draconis	12 6	39.4	7	39.5	3	78 23 39.4	9	+ 0.9
δ Ursæ Majoris	12 8	39.3	2	38.4	1	57 48 39.2	2	
κ Draconis	12 27	37.5	2	36.5	3	70 33 37.0	4	+ 0.6
B. A. C. 4342	12 48	26.4	2	26.2	2	84 10 26.3	4	+ 0.8
a Draconis	14 1	45.0	6	44.9	4	65 2 45.0	8	+ 0.9
4 Ursæ Minoris	14 9	19.3	3	18.7	3	78 12 19.0	6	
5 Ursæ Minoris	14 28	5.7	7	5.7	6	76 19 5.7	11	+ 0.6
β Ursæ Minoris	14 51	39.5	10	39.5	8	74 43 39.5	15	+ 0.9
11 Ursæ Minoris	15 17	53.7	1	55.1	2	72 19 54.4	2	
γ^2 Ursæ Minoris	15 20	55.0	2	55.6	3	72 19 55.2	7	— 0.9
ζ Ursæ Minoris	15 49	23.3	2	23.8	4	78 13 23.6	5	— 0.3
B. A. C. 5406	16 6	44.5	2	45.1	3	68 10 44.8	4	— 0.2
η Ursæ Minoris	16 22	34.0	1	33.9	2	76 4 33.9	2	
ε Ursæ Minoris	17 1	40.3	6	39.9	5	82 15 40.1	10	— 1.0
ω Draconis	17 38	20.1	5	20.1	2	68 49 20.1	6	+ 1.3
ψ^1 Draconis	17 44	58.6	3	58.7	1	72 12 58.6	4	— 0.7
ξ Draconis	17 51	43.8	1	43.1	1	56 53 43.7	1	
δ Ursæ Minoris	18 15	7.32	10	7.50	8	86 36 7.40	18	+ 1.3
50 Draconis	18 51	1.3	5	0.7	4	75 16 1.1	8	+ 1.4
δ Draconis	19 13	55.6	3	54.7	1	67 24 55.3	3	+ 0.9
λ Ursæ Minoris	20 3	24.32	8	24.55	3	88 53 24.40	11	— 0.36
κ Cephei	20 13	16.0	3	15.9	1	77 17 16.0	4	+ 0.1
B. A. C. 7124	20 31	25.2	5	24.7	2	72 3 25.0	6	— 0.8
76 Draconis	20 53	34.7	3	34.6	2	82 0 34.7	5	
B. A. C. 7299	20 54	30.3	3	30.5	2	80 1 30.4	4	+ 0.7
β Cephei	21 27	47.6	5	47.9	2	69 56 47.7	6	+ 0.7
11 Cephei	21 40	2.6	3	2.7	1	70 40 2.6	3	+ 1.1
79 Draconis	21 51	25.7	4	25.0	1	73 2 25.6	4	+ 0.8
B. A. C. 7851	22 24	4.9	6	4.5	2	85 24 4.8	8	
ι Cephei	22 45	53.0	5	51.8	2	65 27 52.8	6	+ 0.2
B. A. C. 7990	22 48	38.6	2	39.0	2	82 24 38.8	4	
B. A. C. 8213	23 28	6.6	7	6.5	3	86 32 6.6	10	
γ Cephei	23 34	3.8	6	4.3	2	76 51 3.9	7	— 0.2
τ Cassiopeæ	23 40	20.0	5	19.4	2	57 52 19.9	5	
B. A. C. 8314	23 48	52.9	5	52.9	4	73 37 52.9	8	+ 0.6

§ 3.

DIFFERENCE OF LONGITUDE BETWEEN WASHINGTON AND GREENWICH RESULTING FROM MOON CULMINATIONS TO 1863 INCLUSIVE.

In appendix A. to the introduction to the Washington observations for 1862 is given a discussion of the moon-culminations to 1860 inclusive. I now propose to combine with the former result that for 1862 and 1863.

For this purpose the error of Hansen's tables in Right Ascension at the time of transit over Washington is deduced from the Greenwich observations, and compared with the error resulting from the Washington observations, as printed in the appropriate section. The differences (G—W) are classified with reference to the moon's limb observed, and the Washington observer, and the mean of each class taken. The result is as follows:

Class.	Mean difference, (G—W.)	Longitude, 5h. 8m.	No. of observations.	Weight.
	s.	s.		
Y I	— 0.061	10.4	39	5
Y II	0.086	9.8	45	5
N I	0.039	10.6	36	5
N II	— 0.023	11.4	25	5
R I	+ 0.007	12.2	6	2
R II	— 0.101	9.4	12	3

The above longitudes are obtained by applying to the assumed longitude (*5h. 8m. 12s.*) the correction 26 (G—W). They still require two systematic corrections:

1. A correction —0*s*.5 for difference of siderial time of mean noon between the British Nautical Almanac and the American Ephemeris in those years.

2. A correction —0*s*.25 for excess of adopted positions of clock stars used at Washington.

Taking the mean by weights, and applying these corrections, we have

5h. 8m. 9s.8.

This is 1*s*.8 less than the longitude deduced in 1862, a result so anomalous as to give rise to the suspicion of some constant difference in the data used in comparing the observations with theory. But a direct computation of the moon's motion for *5h. 8m. 12s.* of terrestrial longitude, by the method and tables of the former paper, in a couple of the more anomalous cases, showed that the anomaly was in the observations themselves. Thus, we have:

Date.	1863, Jan. 6.	March 3.
	h. m. s.	h. m. s.
Greenwich time of Greenwich transit	13 29.9	10 52.0
Greenwich time of Washington transit	18 47.6	16 9.7
Commencement of that 5*h*. equally distant between Greenwich and Washington transit	13 39	11 1
Moon's motion during those 5*h*. (Hansen)	9 51.69	9 50.26
Resulting motion between meridians, (Wash. Observations, 1862, p. xliv)	10 26.74	10 25.17
R. A. of centre observed at Greenwich	8 34 23.93	9 36 52.90
The same, reduced to *5h. 8m. 12s.* west	8 44 50.67	9 47 18.07
R. A. of centre observed at Washington, if reduced with Greenwich elements	8 44 50.33	9 47 17.85
Difference	— 0.34	— 0.22
Difference of printed tabular errors	— 0.34	— 0.19
Correction for difference of adopted mean time	0	— 0.01
Outstanding discrepancy	0	0.02

Thus there is a substantial agreement between the results of the two methods, and the discrepancy can arise only from changes in the observers, or their habits of observing.

Reasoning *à priori*, I think we may fairly give to this series four-tenths the weight of the former. Combining them with these relative weights, we have for the difference of longitude between the observatories of Washington and Greenwich

5h. 8m. 11s.1.

The principal values of the longitude of Washington which have been deduced from other sources are as follows:

1. By Bond, from the chronometric expeditions between Cambridge and Liverpool, Washington being supposed 23m. 41.54s. west of Cambridge, and Liverpool 12m. 0.05s. west of Greenwich:

	h.	m.	s.		s.
Voyages of 1849–'50	5	8	12.0	±	0.29*
1851			12.3	±	0.25
1855			13.4	±	0.19

The last result was considered much the most reliable, as great care was taken to protect the chronometers from changes of temperature, and determine its effect on their rates.

2. By moon-culminations:

	h.	m.	s.
Loomis, from observations at Hudson	5	8	7.4†
Gilliss, from observations at old Naval Observatory			10.0§
Bache, from miscellaneous observations, including Loomis's and Gilliss's			9.9‖
Result of the present investigation			11.1

3. By eclipses and occultations:

	h.	m.	s.
Bache, from miscellaneous eclipses and occultations	5	8	11.1
Peirce, from solar eclipse of 1851, July 21			11.6¶
Peircé, from occultations of Pleiades, 1839, September 26			11.45**.

Of these three methods, that by the transportation of chronometers would seem to be least free from such constant errors as are not eliminated by increasing indefinitely the number of observations. It is therefore singular that it should give results so far exceeding the results of the other methods. Further criticism upon them is, however, foreborne, as we trust that their respective absolute errors will speedily be determined by means of the Atlantic cable.

---

* Report of Superintendent U. S. Coast Survey for 1854, page 141.
† Report of Superintendent U. S. Coast Survey for 1856, page 185.
‡ Transactions of the American Philosophical Society, vol. x, page 10
§ Washington Observations, 1863, page vii.
‖ Coast Survey Report, 1857, page 266.
¶ Coast Survey Report, 1861, page 195.
** Coast Survey Report, 1861, page 220.

OBSERVATIONS

WITH THE

MERIDIAN TRANSIT INSTRUMENT,

1864.

OBSERVATIONS

WITH THE

MERIDIAN TRANSIT INSTRUMENT.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 1	Polaris	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	32.0	26.0	33 59.00	—24 20.95	+ 7.62	. . . .	— 103.19
	β Arietis	2	45.9	48.0	49.5	59.5	0.5	1.8	3.1	4.2	14.4	15.7	17.9	47 1.86	— 0.02	7.60	1 47 9.44	14.72
	O. Arg. S. 1344	†3	24.9	27.0	28.1	38.7	39.9	41.0	42.3	43.5	54.1	55.4	57.4	2 41.12	+ 0.04	7.59	2 2 48.75	12.30
Y.	ξ^1 Ceti	4	26.5	28.5	29.7	39.3	40.4	41.5	42.7	43.9	53.5	54.7	56.6	5 41.57	0.00	7.59	2 5 49.16	14.17
	O. Arg. S. 1433	†5	7.2	9.6	10.9	21.5	22.6	23.9	25.0	26.2	37.5	38.7	40.8	9 23.99	0.04	7.59	2 9 31.62	12.04
	* — 1° 8′	6	3.5	5.6	6.8	26.2	27.2	28.3	29.6	30.8	40.4	41.5	43.4	51 28.48	0.01	7.57	2 51 36.06	13.85
	* — 34° 56′	7	31.8	34.2	35.8	. .	. .	. .	. .	. .	4.6	6.0	8.4	58 50.13	+ 0.01	7.56	2 58 57.70	11.13
	η Virginis	8	. .	. .	. .	2.7	3.7	5.7	21.0	23.5	24.6	25.9	27.2	13 16.79	— 26.01	7.30	12 12 58.08	13.36
	Lacaille 5220	†9	. .	. .	. .	30.3	31.5	32.9	34.3	35.6	47.0	48.3	50.6	29 38.82	5.86	7.29	12 29 40.25	13.98
	O. Arg. S. 12342	10	53.7	55.8	57.1	7.6	8.9	10.2	11.6	12.7	23.1	24.3	26.6	34 10.15	0.04	7.29	12 34 17.40	13.81
	Lacaille 5278	11	2.5	4.8	6.1	17.4	18.6	19.9	21.5	22.8	34.2	35.6	38.0	39 20.13	0.06	7.28	12 39 27.35	14.09
	Moon II	†12	56.3	58.4	59.7	9.7	10.8	12.0	13.2	14.3	24.3	25.3	27.5	43 11.95	0.01	7.28	12 43 19.22	. .
	Lacaille 5371	13	8.6	11.0	12.5	24.2	25.3	26.6	28.1	29.4	40.8	42.3	44.7	55 26.68	0.06	7.28	12 55 33.90	14.11
	B. A. C. 4369	14	. .	. .	. .	. .	. .	. .	46.5	49.4	50.8	52.6	54.0	56 50.66	40.42	7.28	12 56 17.52	14.28
	θ Virginis	15	. .	. .	. .	45.9	46.9	48.1	49.4	50.5	0.0	1.2	3.3	2 53.16	4.97	7.27	13 2 55.46	13.24
	Polaris, S. P.	16	. .	. .	. .	10.0	31.0	48.0	57.0	15.0	. .	. .	. .	9 44.20	— 5.71	7.27	. . . .	102.78
R.	α Ophiuchi	17	14.4	16.3	17.7	27.6	28.5	29.7	30.9	31.9	42.0	43.0	45.1	28 29.74	+ 0.03	7.09	17 28 36.86	10.63
2	Sun I	†18	2.4	4.3	5.8	16.6	17.5	18.6	20.0	21.1	31.4	32.9	35.2	49 18.71	— 0.03	7.09	18 49 25.77	. .
	Sun II	†19	25.0	27.0	28.2	38.7	39.7	41.0	42.5	43.5	53.9	55.0	57.3	51 41.07	— 0.03	7.09	18 51 48.13	. .
	ε Pegasi	†20	8.0	9.9	11.4	20.9	21.9	23.1	24.4	25.4	35.3	36.4	38.6	37 23.21	+ 0.02	7.08	21 37 30.31	11.74
	11 Orionis	21	27.7	29.7	31.0	40.8	41.9	43.0	44.3	45.4	55.5	56.6	58.6	56 43.14	+ 0.05	7.07	4 56 50.26	16.01
	ε Leporis	22	21.2	23.4	24.6	35.1	36.1	37.3	38.5	39.5	50.1	51.4	53.6	59 37.35	— 0.06	7.07	4 59 44.36	12.19
	Uranus	23	51.9	54.1	55.6	6.0	7.0	8.3	9.5	10.8	21.3	22.5	24.5	26 8.32	+ 0.08	7.06	5 26 15.46	. .
	Polaris, S. P.	†24	55.0	36.0	42.0	. .	. .	. .	. .	. .	. .	. .	. .	18 44.33	— 9 7.31	7.05	. . . .	101.99
	η Bootis	25	50.3	52.2	53.5	3.3	4.4	5.7	7.0	8.0	18.2	19.8	21.8	48 5.84	+ 0.09	7.05	13 48 12.98	11.79
3	α Bootis	†26	5.2	7.2	8.6	18.7	19.8	21.1	22.3	23.4	33.6	34.9	37.0	9 21.07	+ 0.09	6.59	. . . .	11.15
Y.	Moon II	†27	25.0	27.0	28.4	38.6	39.5	40.8	42.1	43.2	53.6	54.8	57.0	27 40.91	— 0.06	6.58	14 27 47.43	. .
6	Vesta	28	. .	. .	. .	. .	. .	. .	29.0	31.6	32.7	34.0	35.4	3 32.54	34.31	4.22	3 3 2.45	. .
	Lacaille 1048	29	. .	. .	. .	55.7	56.8	58.1	59.5	0.7	11.5	12.7	15.2	12 3.78	— 5.52	4.21	3 12 2.47	11.78
	ε Eridani	30	13.8	15.8	17.0	26.8	27.8	29.0	30.2	31.2	41.1	42.3	44.4	26 29.04	+ 0.02	4.20	3 26 33.26	13.22
R.	Lacaille 1186	31	49.4	51.7	52.9	3.5	4.4	6.0	7.4	8.4	19.0	20.2	22.4	36 5.94	+ 0.03	4.19	3 36 10.16	11.91
	η Tauri	32	5.7	7.7	9.1	19.8	20.9	22.0	23.4	24.6	35.2	36.3	38.7	39 22.13	— 0.01	4.19	3 39 26.31	— 16.37
	ζ Ursæ Minoris, S. P.	33	1.5	52.3	46.4	59.2	54.0	48.8	43.3	38.0	50.9	44.6	35.3	48 48.57	+ 0.19	4.18	. . . .	+ 15.40
	ε Tauri	34	23.2	25.2	26.3	36.6	37.5	38.8	40.0	41.1	51.5	52.6	54.9	20 38.88	— 0.01	4.16	4 20 43.03	— 16.24
	Lacaille 1485	35	13.3	15.4	16.7	27.6	28.8	30.1	31.5	32.6	43.8	45.2	47.0	24 30.18	+ 0.04	4.15	4 24 34.37	11.43
	B. A. C. 1450	36	8.9	11.0	12.4	22.9	24.0	25.2	26.6	27.8	38.6	39.7	41.8	34 25.35	0.03	4.15	4 34 29.53	11.92
	μ Eridani	37	25.2	27.3	28.3	37.9	38.9	40.0	41.3	42.4	51.9	53.0	55.0	38 40.11	+ 0.01	4.15	4 38 44.27	14.05
	Uranus	38	14.8	16.9	18.3	28.2	29.5	30.9	32.2	33.3	44.0	45.2	47.6	25 30.99	— 0.01	4.11	5 25 35.09	. .
	α Leporis	39	. .	. .	. .	54.4	55.8	57.8	13.9	16.3	17.7	18.9	20.4	27 9.40	27.32	4.11	5 26 46.19	12.71
	ε Orionis	40	. .	. .	. .	14.7	15.7	17.0	18.2	19.2	28.9	30.0	31.9	29 21.95	— 4.95	+ 4.10	5 29 21.10	14.36
Y.	α Ophiuchi	†41	17.6	19.4	20.8	30.8	31.8	32.9	34.3	35.5	45.0	46.3	48.2	28 32.96	. .	. .	. . . .	— 10.73

3. Blurred.
5. Blurred and faint.
9. Faint.
12. Unsteady; limb badly defined.
18-19. Both limbs badly defined.
20. Through clouds.
24. Unsteady; through clouds.
26. Through clouds.
27. Steady; through thin clouds.
41. Faint.

January 1. Night very unfavorable.
2. Hebe just visible in field without illumination.
6. Melpomene not visible.
6. Looked for Hebe; three or four very small stars in the field; too faint for observation.

		s.
January 1,	1h. to 3h. n. =	— 0.07.
	12h. to 14h.	+ 0.10.
2,	17h. to 22h.	+ 0.10.
	4h. to 6h.	+ 0.16.
	13h. to 14h.	+ 0.23.
3,		+ 0.23.
6,		— 0.05.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Jan. 1,	7.3 + 7.44	— 0.029	+ 0.007
2,	3.0 7.07	0.002	
3,	14.2 6.59	0.019	
6,	4.5 + 4.15	— 0.045	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 8	Sun I	1	28.3	30.3	31.8	42.1	43.1	44.5	45.8	46.8	57.5	58.7	0.8	15 44.52	+ 0.01	+ 3.25	19 15 47.78	. .
	Sun II	2	49.7	51.8	53.1	3.4	4.5	5.7	7.1	8.3	18.8	20.1	22.3	18 5.89	0.01	3.25	19 18 9.15	. .
	α Aquilæ	3	50.1	52.2	53.3	2.9	3.9	5.2	6.4	7.4	17.1	18.3	20.4	44 5.20	0.01	3.25	. . . .	— 11.33
R.	ε Pegasi	4	11.9	14.0	15.2	24.8	25.8	27.0	28.2	29.3	39.0	40.2	42.3	37 27.06	0.01	3.22	. . . .	11.72
Y.	Venus II	5	. .	50.3	51.5	1.6	2.7	3.9	5.2	6.3	16.5	17.8	. .	11 3.98	0.02	2.94	16 11 6.94	0.65
	α Ophiuchi	6	18.7	20.7	22.0	31.8	32.8	34.0	35.1	36.3	46.1	47.3	49.4	28 34.02	0.01	2.92	17 28 36.95	10.77
9	Sun I	7	50.8	52.7	54.3	4.6	5.7	6.9	8.2	9.3	19.9	21.1	23.2	19 6.97	0.01	2.89	19 19 9.87	. .
	Sun II	8	12.0	14.0	15.4	25.6	26.7	28.0	29.3	30.4	40.9	42.2	44.4	21 28.08	0.01	2.89	19 21 30.98	. .
	α Aquilæ	9	50.4	52.4	53.6	3.4	4.3	5.5	6.8	7.8	17.7	18.8	20.8	44 5.59	0.01	2.88	19 44 8.48	— 11.34
	Mercury I	10	33.0	35.1	36.5	46.4	47.5	48.7	50.0	51.2	1.2	2.6	4.7	41 48.81	0.01	2.87	20 41 51.69	+ 0.25
	β Cephei	11	4.9	10.6	14.4	42.1	44.8	48.4	51.8	54.9	23.0	26.7	32.3	26 48.54	0.02	2.85	. . . .	— 1.04
	α Pegasi	12	41.3	43.4	44.7	54.5	55.5	56.8	58.0	59.0	9.0	10.2	12.3	57 56.79	0.01	2.83	22 57 59.63	12.25
	67 Ceti	13	55.3	57.5	58.6	8.2	9.2	10.4	11.6	12.7	22.4	23.8	25.8	10 10.50	0.01	2.78	2 10 13.29	13.24
	Weisse 209	14	49.5	51.4	52.8	2.5	3.5	4.8	5.9	6.9	16.8	18.0	20.2	14 4.75	0.00	2.78	2 14 7.53	14.50
	B. A. C. 743	15	0.4	2.9	4.4	15.0	16.2	17.7	18.9	20.0	30.9	32.3	34.6	17 17.57	0.01	2.78	2 17 20.36	11.85
	ξ^2 Ceti	†16	39.6	41.5	42.8	52.3	53.4	54.4	55.5	56.6	6.4	7.6	9.5	20 54.51	0.01	2.78	2 20 57.30	14.20
	* — 27° 52′	17	. .	. .	. .	8.8	10.0	11.2	12.6	13.9	24.7	26.2	28.5	23 16.99	5.60	2.77	2 23 14.16	11.81
	O. Arg. S. 1630	18	10.3	12.6	14.1	24.9	26.0	27.3	28.7	29.8	40.8	42.0	44.3	26 27.35	0.01	2.77	2 26 30.13	11.82
	O. Arg. S. 1664	19	25.0	27.3	28.6	39.2	40.5	41.7	43.0	44.3	55.1	56.5	58.6	29 41.80	0.01	2.77	2 29 44.58	11.83
	* — 31° 13′	20	37.5	39.8	41.2	52.4	53.6	54.8	56.3	57.6	8.7	10.3	12.6	32 54.98	0.01	2.77	2 32 57.76	11.49
	Lacaille 838	21	37.4	39.6	40.8	51.8	52.9	54.3	55.6	56.9	7.8	9.1	11.6	36 54.35	0.01	2.77	2 36 57.13	11.69
	Lacaille 865	22	48.9	51.2	52.5	2.9	4.2	5.5	6.8	8.0	18.7	20.0	22.3	40 5.55	0.01	2.77	2 40 8.33	11.91
	O. Arg. S. 1838	23	5.9	7.9	9.3	19.1	20.1	21.4	22.6	23.8	33.9	35.1	37.3	43 21.49	0.01	2.77	2 43 24.27	12.54
	* — 31° 22′	24	51.7	54.2	55.5	6.7	7.8	9.2	10.6	11.8	23.1	24.5	27.0	46 9.28	0.01	2.77	2 46 12.06	11.42
	O. Arg. S. 1910	25	34.0	36.3	37.5	48.2	49.2	50.3	51.6	52.8	3.3	4.5	6.7	49 50.40	0.01	2.77	2 49 53.18	12.06
	* — 27° 28′	26	30.4	32.5	33.7	44.5	45.7	47.3	48.4	49.6	0.4	1.6	3.7	52 47.07	0.01	2.77	2 52 49.85	11.74
	O. Arg. S. 1968	27	34.9	37.3	38.6	49.4	50.5	51.9	53.2	54.4	5.4	6.6	8.9	54 51.92	0.01	2.77	2 54 54.70	11.58
	Weisse 295	28	20.2	22.2	23.3	33.3	34.4	35.7	36.8	37.8	47.7	48.9	50.9	17 35.56	0.01	2.76	3 17 38.33	14.79
	Weisse 334	29	33.2	35.1	36.4	46.2	47.2	48.5	49.8	50.7	0.6	1.8	3.8	19 48.48	0.00	2.76	3 19 51.24	15.04
	Lacaille 1160	30	23.2	25.6	27.0	38.3	39.4	40.7	42.0	43.4	54.7	56.0	58.4	32 40.79	0.01	2.76	3 32 43.56	11.20
	O. Arg. S. 2468	31	54.7	56.9	58.2	8.6	9.6	10.9	12.2	13.3	24.0	25.2	27.5	36 11.01	+ 0.01	2.76	3 36 13.78	12.01
	η Tauri	†32	. .	. .	. .	21.1	22.4	23.6	24.9	25.9	36.6	37.9	40.1	39 29.06	— 5.41	2.75	3 39 26.40	16.35
	27 Tauri	33	47.9	50.0	51.3	1.7	2.9	4.0	5.4	6.7	17.2	18.5	20.6	41 4.20	0.00	2.75	3 41 6.95	16.36
	28 Tauri	34	26.1	27.6	28.8	30.0	32.8	. .	38.4	41.0	42.2	43.7	45.1	41 5.57	0.26	2.75	3 41 8.06	16.37
	Weisse (2) 1013	35	10.9	12.4	13.6	14.8	17.3	. .	21.0	23.7	24.9	26.4	27.7	46 49.27	0.25	2.75	3 46 51.77	15.99
	Weisse (2) 1019	36	27.7	29.0	30.4	31.5	34.0	.	37.9	40.4	41.7	43.2	44.5	47 6.03	— 0.25	2.75	3 47 8.53	15.99
	* + 19° 41′	37	42.5	44.6	45.7	56.0	57.0	58.3	59.6	0.7	10.9	12.0	14.3	48 58.33	0.00	2.75	3 49 1.08	16.01
	* — 27° 17′	38	29.7	32.0	33.4	44.0	45.1	46.4	47.9	49.0	59.9	1.0	3.4	54 46.53	+ 0.01	2.75	3 54 49.29	11.63
	O. Arg. S. 2796	39	31.9	34.0	35.4	45.6	46.6	47.8	49.2	50.3	0.7	1.8	4.1	59 47.95	0.01	2.75	3 59 50.71	12.28
	Lacaille 1549	40	58.5	0.7	2.2	13.0	14.2	15.5	16.8	18.1	29.0	30.4	32.6	35 15.55	0.01	2.74	4 35 18.30	11.49
	μ Eridani	41	26.6	28.4	29.7	39.3	40.4	41.4	42.7	43.7	53.4	54.5	56.7	38 41.53	+ 0.01	2.74	4 38 44.28	14.04
	Uranus I	42	23.8	25.5	26.7	27.9	30.5	. .	35.8	38.6	39.8	41.3	42.7	25 3.26	— 0.26	2.73	5 25 5.73	. .
	Uranus II	43	47.2	49.2	50.6	1.0	2.0	3.4	4.7	5.8	16.2	17.5	19.7	25 3.40	0.00	2.73	5 25 6.13	. .
	ε Orionis	44	3.3	5.4	6.6	16.1	17.3	18.3	19.3	20.4	30.2	31.2	33.4	29 18.32	+ 0.01	2.72	5 29 21.05	14.36
	Lacaille 2033	45	26.8	28.8	30.3	41.2	42.3	43.6	45.0	46.1	.	. .	. .	46 38.01	5.74	2.72	5 46 46.47	11.46
	O. Arg. S. 4534	46	49.5	51.7	53.0	3.8	5.0	6.3	7.5	8.7	19.7	21.0	23.2	55 6.31	+ 0.01	2.72	5 55 9.04	11.67
	* — 28° 35′	47	36.4	37.9	39.3	40.5	43.2	. .	51.7	54.6	55.8	57.0	58.7	59 17.51	— 0.26	2.72	5 59 19.97	11.60
	* — 28° 35′	48	3.0	5.1	6.4	17.3	18.4	19.8	21.1	22.3	33.3	34.5	37.1	59 19.85	+ 0.01	2.72	5 59 22.58	11.60
	Lacaille 2163	49	3.1	5.7	6.9	18.1	19.2	20.6	22.0	23.1	34.5	35.9	38.3	4 20.67	0.01	2.72	6 4 23.40	11.32
	Lacaille 2180	50	21.5	23.7	25.1	35.6	36.7	38.3	39.4	40.5	51.4	52.6	54.8	6 38.15	+ 0.01	+ 2.71	6 6 40.87	— 11.85

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
Jan.	8, 20.7	+ 3.23	— 0.016	+ 0.007
	9, 1.4	+ 2.79	— 0.016	

16. Unsteady.
32. Unsteady.
January 9. Looked for Egeria, but could not see it. Observed Vesta, but it failed to be recorded on the fillet.

r.
January 9, 5h. 45m. Image east 0.05. Clamp east.
Night unfavorable; much interrupted by the freezing of the fluid in the pen.

s.
January 8, n. = 0.00.
8–9, 16h. to 23h. 0.00.
9, 2h. to 7h. — 0.01.

DATE.	OBJECT.	Number.	SECOND OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 9	δ Ursæ Minoris, S. P.	1	. .	. .	. .	21.0	3.0	42.0	23.0	5.0	. .	. .	. .	15 42.80	— 0.75	+ 2.71	. . . .	+ 105.51
	γ Geminorum . . .	2	35.4	37.6	38.8	48.9	49.9	51.1	52.4	53.5	3.5	4.5	6.7	29 51.12	0.00	2.71	6 29 53.83	— 16.37
	51 Cephei	†3	. .	. .	. .	28.5	50.0	. .	38.0	0.0	. .	. .	. .	36 14.12	+ 0.89	2.71	6 36 17.72	158.39
10	Venus II . . .	†4	21.6	23.8	25.0	35.2	36.4	37.7	38.8	40.0	50.1	51.4	53.6	20 37.60	— 0.01	1.89	16 20 39.48	0.64
R.	α Herculis . . .	5	9.4	11.3	12.4	22.4	23.4	24.6	25.9	26.8	36.8	38.0	40.0	8 24.64	+ 0.02	1.87	17 8 26.53	10.64
	α Ophiuchi . . .	6	20.0	21.7	23.1	32.8	33.8	35.0	36.0	37.4	47.3	48.5	50.5	28 35.10	+ 0.02	1.86	17 28 36.98	10.81
11	Sun I	†7	34.6	36.4	37.8	48.0	49.1	50.3	51.6	52.9	3.3	4.6	6.6	28 50.47	— 0.01	1.81	19 28 52.27	. .
	Sun II	8	55.5	57.4	58.7	9.1	10.2	11.4	12.8	13.8	24.3	25.5	27.8	31 11.50	— 0.01	1.81	19 31 15.30	. .
	α Aquilæ	9	51.5	53.6	54.8	4.4	5.4	6.6	7.7	8.9	18.5	19.8	21.8	44 6.64	+ 0.01	1.80	19 44 8.45	— 11.35
	Mercury I . . .	10	6.6	8.6	10.0	19.9	21.0	22.3	23.5	24.6	34.8	36.0	38.0	48 22.30	— 0.01	1.76	20 48 24.05	+ 0.26
	β Cephei	11	5.7	11.5	15.0	42.9	45.7	49.1	52.7	55.7	23.7	27.3	33.2	26 49.32	+ 0.12	1.75	21 26 51.19	— 0.98
	ϵ Pegasi	12	13.4	15.4	16.7	26.3	27.3	28.5	29.7	30.8	40.5	41.6	43.8	37 28.55	0.02	1.74	21 37 30.31	11.70
	Moon I	13	30.7	32.7	33.9	43.9	45.0	46.2	47.5	48.5	58.4	59.7	1.8	45 46.21	0.00	1.74	21 45 47.95	. .
Y.	α Pegasi	14	42.4	44.5	45.7	55.5	56.5	57.8	59.1	0.1	10.0	11.3	13.5	57 57.85	0.02	. .	. . . .	12.23
R.	Polaris	15	. .	. .	. .	4.0	46.0	34.0	22.0	5.0	. .	. .	. .	9 34.20	1.38	1.64	. . . .	. .
	δ Ceti	16	57.9	59.7	1.0	10.7	11.7	12.8	14.0	15.0	24.9	26.1	28.0	17 12.89	0.01	1.64	1 17 14.54	12.91
	ϵ Eridani	17	16.4	18.3	19.6	29.2	30.1	31.3	32.5	33.5	43.5	44.7	46.8	26 31.45	+ 0.01	1.58	3 26 33.04	12.92
	Weisse 575 . . .	18	2.5	3.9	5.3	6.3	8.5	. .	9.0	11.0	12.4	13.6	14.9	31 38.74	— 0.23	1.58	3 31 40.09	14.24
	Weisse 580 . . .	19	35.8	37.6	38.9	48.5	49.5	50.6	51.9	52.9	2.5	3.5	5.5	31 50.65	+ 0.01	1.58	3 31 52.24	14.24
	Lacaille 1199 . .	20	5.2	7.4	8.7	19.6	21.0	22.5	23.7	24.9	35.8	37.3	39.5	38 22.33	0.02	1.57	3 38 23.92	11.45
	B. A. C. 1179 . .	21	37.6	39.8	41.4	52.3	53.4	54.7	55.9	57.2	8.4	9.7	12.3	40 54.79	0.02	1.57	3 40 56.38	11.36
	B. A. C. 1222 . .	†22	23.4	25.5	27.0	37.9	38.9	40.3	41.7	43.1	53.9	55.3	57.4	48 40.40	+ 0.02	1.57	3 48 41.99	11.59
	γ Eridani	23	. .	. .	. .	39.0	40.0	41.1	42.3	43.5	53.4	54.7	56.9	51 46.36	— 5.10	1.57	3 51 42.83	12.92
	τ^9 Eridani	24	51.5	53.4	54.9	5.3	6.5	7.7	8.9	10.1	21.7	22.0	24.2	54 7.84	+ 0.02	1.57	3 54 9.43	11.91
	Lacaille 1324 . .	25	33.6	35.7	37.0	47.9	49.0	50.7	51.9	53.0	3.8	5.3	7.7	56 50.51	0.02	1.57	3 56 52.10	11.43
	B. A. C. 1273 . .	26	44.4	46.6	48.0	58.6	59.7	1.4	2.5	3.6	14.5	15.7	18.4	0 1.22	0.02	1.56	4 0 2.80	11.53
	Lacaille 1370 . .	27	59.5	1.6	3.0	13.7	14.7	16.2	17.6	18.7	29.3	30.5	32.8	4 16.15	0.02	1.56	4 4 17.73	11.80
	Lacaille 1373 . .	28	46.5	48.6	50.2	0.7	1.7	3.1	4.4	5.5	16.2	17.5	19.8	5 3.11	0.02	1.56	4 5 4.69	11.80
	Lacaille 1393 . .	29	42.2	44.3	45.6	56.0	57.0	58.4	59.8	0.8	11.5	12.7	15.0	9 58.48	0.02	1.56	4 10 0.06	11.98
	B. A. C. 1340 . .	30	45.0	47.2	48.5	59.2	0.2	1.5	2.9	4.0	14.7	16.0	18.3	14 1.59	0.02	1.56	4 14 3.17	11.81
	ϵ Tauri	31	25.7	27.8	28.8	39.0	40.0	41.3	42.7	43.7	53.8	54.9	57.1	20 41.35	0.00	1.55	4 20 42.90	16.21
Y.	Venus II . . .	†32	10.9	12.7	14.1	24.3	25.3	26.8	27.9	29.0	39.0	40.4	42.6	25 26.64	0.01	1.37	16 25 28.02	0.64
	α Herculis . . .	33	9.8	11.8	13.2	22.9	24.0	25.3	26.3	27.4	37.4	38.6	40.8	8 25.23	0.01	1.35	17 8 26.59	10.66
	α Ophiuchi . . .	34	20.3	22.4	23.7	33.3	34.4	35.6	36.9	37.9	47.7	49.0	51.3	28 35.68	0.01	1.34	17 28 37.03	10.83
	α Lyræ	35	58.6	1.1	2.8	14.7	16.0	17.8	19.1	20.5	32.8	34.5	37.0	32 17.72	0.01	1.30	18 32 19.03	7.16
12	Sun I	36	55.2	57.6	58.8	8.8	9.8	11.2	12.5	13.6	24.1	25.5	27.7	33 11.35	0.01	1.27	19 33 12.63	. .
	Sun II	37	16.0	18.2	19.7	29.7	30.8	32.1	33.4	34.5	44.9	45.9	48.2	35 32.13	0.01	1.27	19 35 33.41	. .
	67 Ceti	38	57.1	59.2	0.3	10.0	10.9	12.2	13.3	14.4	24.1	25.4	27.4	10 12.21	0.01	1.05	2 10 13.27	13.29
	Weisse 209 . . .	39	51.0	53.1	54.3	4.0	5.1	6.4	7.7	8.7	18.6	19.8	21.9	14 6.42	0.00	1.05	2 14 7.47	14.46
	Lacaille 726 . .	40	56.9	59.1	0.4	11.1	12.3	13.6	14.9	16.0	26.8	28.2	30.3	18 13.60	0.03	1.05	2 18 14.68	11.89
	ξ^2 Ceti	41	41.3	43.2	44.6	54.0	55.0	56.2	57.4	58.4	8.2	9.4	11.5	20 56.29	0.00	1.05	2 20 57.34	14.17
	B. A. C. 774 . .	42	50.4	52.7	53.8	4.4	5.5	6.9	8.3	9.3	20.1	21.4	23.6	24 6.95	0.03	1.04	2 24 8.02	11.92
	B. A. C. 790 . .	43	36.4	38.6	40.0	50.9	52.0	53.4	54.8	56.0	6.9	8.3	10.5	27 53.44	+ 0.03	1.04	2 27 54.51	11.67
	Weisse 603 . . .	†44	12.6	14.5	15.8	. .	. .	. .	. .	. .	40.0	41.2	43.2	35 27.88	— 0.04	1.04	2 35 28.88	14.64
	Weisse 615 . . .	45	5.1	7.1	8.4	18.2	19.3	20.5	21.7	22.8	32.7	33.8	35.9	36 20.50	0.00	1.04	2 36 21.54	14.65
	Weisse 694 . . .	†46	. .	. .	. .	56.0	57.0	58.2	59.3	0.6	10.4	11.5	13.5	41 3.31	5.07	1.04	2 40 59.28	14.67
	Weisse 728 . . .	47	. .	. .	. .	58.6	59.7	1.0	2.2	3.2	13.0	14.3	16.4	43 6.05	— 5.08	1.03	2 43 2.00	14.73
	Weisse 746 . . .	48	47.8	49.8	51.1	0.9	1.9	3.2	4.4	5.4	15.4	16.6	18.6	44 3.19	0.00	1.03	2 44 4.22	14.74
	Weisse 841 . . .	49	29.9	32.0	33.3	43.2	44.2	45.4	46.5	47.7	57.6	58.9	0.9	48 45.42	0.00	+ 1.03	2 48 46.45	— 14.82

3. Very unsteady.
4. Unsteady; limb badly defined.
7. Badly defined.
22. Faint.
32. Unsteady.
44. Faint.
46. Faint; through clouds.

	s.
January 10–11, 16h. to 23h. n. =	+ 0.05.
11, 1h. to 5h.	— 0.02.
11–12, 16h. to 20h.	0.00.
12, 2h. to 4h.	— 0.04.
4h. to 7h.	— 0.08.

	r.	
January 12, 4h.	Image east 0.06.	Clamp east.
	Image west 0.08.	Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Jan. 11, 23.1	+ 1.70	— 0.028	+ 0.007
12, 0.7	+ 1.10	— 0.033	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	h. m.	m. s.	s.	h. m. s.	s.
Jan. 12	4 Eridani	1	4.9	7.1	8.4	18.8	20.0	21.3	22.5	23.7	34.4	35.6	37.8	51 21.32	+ 0.03	+ 1.03	2 51 22.38	— 11.97
Y.	Weisse 976	2	48.5	50.5	51.8	1.5	2.5	3.7	5.0	6.0	16.0	17.0	19.3	56 3.80	0.00	1.03	2 56 4.83	14.94
	Vesta	3	21.9	23.9	25.2	34.8	35.8	36.9	38.3	39.3	49.2	50.3	52.6	3 37.11	0.00	1.02	3 3 38.13	. .
	Lacaille 1010	4	17.9	20.1	21.6	32.4	33.5	34.9	36.3	37.4	48.4	49.7	52.0	7 34.93	+ 0.03	1.02	3 7 35.98	11.63
	Weisse 173	5	38.0	40.2	41.3	51.2	52.2	53.5	54.6	55.8	5.6	6.9	9.0	10 53.48	0.00	1.02	3 10 54.50	15.14
	B. A. C. 1061	6	. .	. .	. .	. .	. .	. .	. .	. .	35.0	52.5	23.0	25 56.83	— 3 21.44	1.01	3 22 36.40	— 94.74
	B. A. C. 5140, S. P.	†7	. .	. .	. .	53.0	27.0	56.5	25.0	59.0	. .	. .	. .	21 56.10	0.36	1.01	15 21 56.75	+ 123.82
	η Tauri	8	9.2	11.3	12.6	23.0	24.1	25.3	26.7	27.8	38.2	39.5	41.6	39 25.39	0.01	1.00	3 39 26.38	— 16.32
	B. A. C. 1206	†9	9.2	11.0	12.4	22.6	23.6	24.8	25.9	27.0	37.0	38.4	40.3	45 24.75	0.01	1.00	3 45 25.74	15.67
	Weisse (2) 248	10	16.6	18.8	20.1	30.1	31.1	32.4	33.5	34.6	44.9	46.0	48.3	12 32.40	— 0.02	0.98	4 12 33.36	16.05
	Weisse (2) 348	†11	. .	. .	. .	47.8	48.8	50.0	51.4	52.5	. .	. .	. .	16 50.10	+ 0.03	0.98	4 16 51.11	16.11
	Weisse (2) 376	†12	. .	. .	. .	10.5	11.8	13.9	29.9	32.5	33.6	35.1	36.5	18 25.48	— 27.46	0.98	4 17 59.00	16.12
	Hebe	13	8.0	10.0	11.2	20.9	21.8	23.0	24.1	25.2	34.9	35.9	38.0	25 23.00	0.00	0.98	4 25 23.98	14.54
	Weisse (2) 637	14	40.1	42.2	43.7	54.2	55.1	56.5	57.8	58.9	9.5	10.8	12.8	29 56.51	— 0.03	0.98	4 29 57.46	16.88
	μ Eridani	15	28.3	30.4	31.4	41.0	42.0	43.3	44.4	45.5	55.2	56.4	58.4	38 43.30	+ 0.01	0.97	4 38 44.28	14.02
	Uranus	16	20.7	22.8	24.2	34.5	35.5	36.9	38.2	39.2	49.9	51.2	53.3	24 36.95	— 0.03	0.94	5 24 37.86	. .
	O. Arg. N. 6031	17	4.9	10.6	14.1	40.0	42.8	46.0	49.8	52.4	19.0	22.3	27.8	29 46.34	0.19	0.94	5 29 46.34	31.55
	O. Arg. N. 6052	18	. .	. .	. .	47.5	50.3	. .	56.6	59.7	. .	. .	. .	30 53.52	0.05	0.94	5 30 54.41	31.56
	O. Arg. N. 6159	19	43.4	49.5	53.2	23.0	26.3	29.8	33.8	36.9	6.8	10.3	16.6	36 29.87	0.21	0.94	5 36 30.60	34.17
	α Orionis	20	34.8	36.8	38.0	47.7	48.7	49.9	51.2	52.2	1.9	3.1	5.1	47 49.95	0.00	0.93	5 47 50.88	15.32
	O. Arg. N. 6390	21	11.0	17.1	21.7	52.8	56.6	0.1	3.8	7.0	38.9	43.0	49.8	52 0.16	0.23	0.93	5 52 0.86	35.62
	(* 116) W.	22	28.5	35.6	40.7	14.4	17.4	22.0	26.3	30.0	4.2	8.2	15.4	58 22.06	0.25	0.93	5 58 22.74	37.46
	Lalande 11684	23	11.6	13.9	15.1	25.7	26.8	28.3	29.5	30.6	41.4	42.6	44.8	2 28.21	0.03	0.92	6 2 29.10	17.56
	Lalande 11714	24	. .	. .	. .	17.4	18.5	19.8	21.0	22.2	33.1	34.5	36.8	3 25.41	5.54	0.92	6 3 20.79	17.56
	Weisse (2) 193	25	. .	. .	. .	43.1	44.5	46.0	47.5	49.0	1.6	3.4	6.1	7 52.65	— 6.62	0.92	6 7 46.95	20.02
	δ Ursæ Minoris, S. P.	26	. .	. .	. .	22.5	4.0	42.5	24.0	5.0	. .	. .	. .	15 43.60	+ 0.43	0.92	. . . .	. .
	γ Geminorum	27	37.4	39.4	40.7	50.7	51.7	52.9	54.1	55.1	5.2	6.6	8.7	29 52.95	— 0.02	0.91	6 29 53.84	16.39
	51 Cephei	28	. .	. .	. .	30.5	50.0	17.5	42.5	5.0	. .	. .	. .	36 17.10	— 0.53	+ 0.91	6 36 17.48	158.34
13	Venus II	29	53.2	55.3	56.6	6.7	7.8	8.9	10.1	11.5	21.7	23.0	25.0	35 9.08	0.00	— 0.64	16 35 8.44	0.64
	α Lyræ	30	0.6	3.2	4.8	17.0	18.2	19.8	21.3	22.6	35.0	36.4	39.0	32 19.81	+ 0.02	0.74	18 32 19.09	7.19
	β Lyræ	31	45.6	47.9	49.5	0.9	2.0	3.4	4.9	6.0	17.6	19.0	21.5	45 3.48	0.01	0.75	18 45 2.74	8.08
14	Sun I	32	35.8	37.8	39.1	49.4	50.5	51.8	53.0	54.1	4.7	6.0	8.2	41 51.85	0.00	0.79	19 41 51.06	. .
	Sun II	33	56.1	58.1	59.4	9.8	10.9	12.1	13.4	14.6	. .	. .	. .	44 6.80	+ 5.37	0.79	19 44 11.38	. .
	β Cephei	34	. .	. .	. .	45.2	47.7	51.9	55.5	58.4	26.6	30.1	36.0	27 6.42	— 14.39	0.88	21 26 51.15	0.90
	Moon I	†35	41.2	43.2	44.6	54.4	55.4	56.6	57.8	58.8	8.8	10.0	12.3	33 56.65	+ 0.01	1.03	0 33 55.63	. .
	ϵ Piscium	36	40.0	42.0	43.4	53.0	54.0	55.2	56.4	57.5	7.1	8.3	10.4	55 55.21	0.01	1.05	0 55 54.17	13.35
	Polaris	†37	26.0	46.5	37.0	. .	. .	32.0	22.0	4.0	. .	. .	. .	5 27.92	+ 4 7.84	1.06	. . . .	92.15
	θ Ceti	38	0.3	2.4	3.7	13.3	14.3	15.5	16.7	17.7	27.4	28.7	30.7	17 15.52	0.00	1.07	1 17 14.45	12.87
	η Piscium	†39	37.7	39.0	40.3	41.5	44.0	. .	46.0	48.5	49.8	51.2	52.4	24 15.04	— 0.24	1.07	1 24 13.73	13.94
	* — 27° 10′	†40	10.9	13.2	14.7	25.2	26.2	27.4	28.6	30.0	40.9	42.3	44.7	49 27.65	0.00	1.09	1 49 26.56	11.93
	* — 23° 34′	41	24.8	27.0	28.2	. .	. .	.	. .	. .	54.1	55.5	57.5	52 41.18	— 0.04	1.10	1 52 40.04	12.14
	* — 23° 34′	42	. .	. .	. .	39.2	40.2	41.5	42.9	44.0	. .	. .	. .	52 41.56	+ 0.05	1.10	1 52 40.51	12.14
	* — 18° 10′	43	11.7	13.8	15.1	25.2	26.2	27.4	28.7	29.8	40.0	41.1	43.4	57 27.49	0.00	1.10	1 57 26.39	12.47
	67 Ceti	44	59.4	1.4	2.5	12.2	13.1	14.3	15.6	16.6	26.4	27.6	29.5	10 14.42	0.00	1.11	2 10 13.31	13.18
	Lacaille 726	45	. .	. .	. .	. .	. .	. .	49.4	52.2	53.5	54.9	56.4	18 53.28	— 37.59	1.12	2 18 14.57	11.86
	Lacaille 750	46	37.5	39.5	41.0	51.3	52.5	53.7	55.0	56.1	6.7	8.2	10.1	22 53.78	0.00	1.12	2 22 52.66	12.04
	O. Arg. S. 1630	47	. .	. .	. .	44.5	45.7	48.0	5.2	8.0	9.2	10.5	11.8	27 0.36	— 29.35	1.13	2 26 29.88	11.74
	O. Arg. S. 1655	48	28.1	30.1	31.4	41.3	42.3	43.7	44.9	46.0	56.2	57.4	59.6	28 43.73	0.00	1.13	2 28 42.60	12.47
	γ Ceti	†49	2.9	5.0	6.1	15.6	16.6	17.8	19.0	20.2	29.8	30.9	33.1	36 17.91	+ 0.01	— 1.13	2 36 16.79	— 13.87

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 14, 23.7	+ 0.99	— 0.049	+ 0.007

7. Faint; through clouds.
9. Faint.
11–12. Faint.
35. Steady; through thin clouds.
37. Under clouds.
39. Through clouds.
40. Faint.
49. Cloudy.

s.
January 13–14, n. = + 0.02.
15–16, 16h. to 20h. + 0.07.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 15	Moon I	1	39.2	41.2	42.4	52.5	53.4	54.5	55.7	57.0	7.3	8.5	10.4	27 54.74	+ 0.01	— 2.49	1 27 52.26	- -
R.	ν Piscium	2	10.0	11.9	13.2	22.9	23.8	24.9	26.0	27.1	36.8	38.0	40.0	34 24.96	0.01	2.48	- - - -	— 13.56
	o Piscium	†3	1.5	3.5	4.6	14.3	15.3	16.5	17.6	18.7	28.6	29.6	31.8	38 16.55	+ 0.01	2.48	- - - -	13.81
Y.	Venus II	4	41.3	43.3	44.7	55.0	55.9	57.2	58.5	59.5	9.8	11.0	13.3	44 57.23	— 0.02	3.23	16 44 53.98	0.63
	α Herculis	5	14.4	16.5	17.7	27.6	28.6	29.8	31.0	32.1	41.9	43.2	45.3	8 29.83	+ 0.02	3.25	17 8 26.60	10.75
	α Ophiuchi	6	24.9	27.0	28.3	38.0	39.0	40.3	41.5	42.6	52.5	53.7	55.8	28 40.33	0.02	3.26	17 28 37.09	10.91
	δ Ursæ Minoris	7	35.5	9.0	30.5	9.0	25.0	45.5	5.0	23.5	6.5	27.5	1.0	15 47.09	1.30	3.30	- - - -	- -
	α Lyræ	8	3.2	5.6	7.4	19.5	20.9	22.4	24.0	25.3	37.5	39.0	41.6	32 22.40	0.06	3.31	18 32 19.15	7.22
	β Lyræ	9	48.2	50.6	52.1	3.5	4.6	6.0	7.4	8.8	20.3	21.6	24.0	45 6.10	0.05	3.32	18 45 2.83	8.11
R.	α Aquilæ	10	56.7	58.8	0.0	9.5	10.6	11.8	12.9	14.0	23.8	25.0	27.1	44 11.84	+ 0.02	3.36	19 44 8.50	11.40
16	Sun I	11	14.8	16.7	18.0	28.3	29.4	30.5	31.9	33.0	43.4	44.7	47.0	50 30.70	— 0.02	3.36	19 50 27.32	- -
	Sun II	12	34.5	36.7	38.4	48.4	49.6	50.7	51.9	53.0	3.5	4.7	6.9	52 50.75	— 0.02	3.37	19 52 47.36	- -
R.	β Cephei	13	10.9	16.6	20.5	48.3	51.0	54.5	58.0	1.0	29.0	32.5	38.4	26 54.61	+ 0.02	3.43	21 26 51.20	0.84
	ϵ Pegasi	14	18.7	20.5	21.8	31.5	32.4	33.6	34.8	35.9	45.7	47.0	49.0	37 33.72	0.01	3.44	21 37 30.29	11.70
	α Piscis Australis	†15	54.2	56.4	57.6	8.7	9.8	11.3	- -	13.7	24.8	26.6	28.6	50 11.17	0.14	3.49	22 50 7.82:	13.24
	α Pegasi	16	47.7	49.6	50.8	0.7	1.7	2.9	4.2	5.3	15.2	16.4	18.6	58 3.01	0.01	3.50	22 57 59.62	12.19
Y.	ξ^1 Ceti	17	37.5	39.5	40.8	50.5	51.4	52.6	53.8	54.9	4.6	5.8	7.9	5 52.66	0.01	3.63	2 5 49.04	13.99
	67 Ceti	18	1.8	3.8	5.1	14.5	15.6	16.7	18.0	19.0	28.8	30.0	32.0	10 16.85	0.01	3.65	2 10 13.21	13.15
	Moon I	†19	38.2	40.3	41.4	51.7	52.7	54.0	55.2	56.3	6.6	7.8	9.9	21 54.01	0.01	3.65	2 21 50.37	- -
	Lacaille 787	20	12.4	14.5	15.8	26.1	27.2	28.4	29.8	30.9	41.3	42.6	44.8	28 28.53	0.01	3.64	2 28 24.90	12.10
	Lacaille 802	21	57.5	0.0	1.3	12.3	13.5	14.8	16.2	17.3	28.4	29.9	32.1	31 14.85	0.01	3.64	2 31 11.22	11.52
	Weisse 603	22	17.0	19.0	20.3	30.0	31.0	32.3	33.5	34.7	44.6	45.7	47.6	35 32.34	0.01	3.64	2 35 28.71	14.59
	Weisse 615	23	9.7	11.8	13.2	22.9	23.9	25.1	26.3	27.4	37.3	38.6	40.5	36 25.15	+ 0.01	3.64	2 36 21.52	14.60
	B. A. C. 854	†24	- -	- -	-	29.8	31.2	33.2	50.4	53.0	54.3	55.8	57.3	38 45.62	— 28.94	3.64	2 38 13.04	11.80
	π Arietis	25	32.0	34.1	35.4	45.4	46.4	47.6	49.0	50.0	0.0	1.3	3.4	41 47.69	+ 0.01	3.64	2 41 44.06	14.98
	ρ^3 Arietis	26	35.4	37.6	38.6	48.7	49.7	51.1	52.3	53.3	3.5	4.7	6.9	48 51.07	0.01	3.64	2 48 47.44	15.10
	ϵ Arietis	27	15.8	17.9	19.2	29.4	30.5	31.7	33.0	34.2	44.6	45.7	47.9	51 31.81	0.01	3.64	2 51 28.18	15.42
	B. A. C. 9541	28	12.3	14.4	15.7	26.2	27.4	28.6	29.9	31.1	41.6	43.0	45.2	56 28.67	0.01	3.64	2 56 25.04	11.92
	53 Arietis	29	36.2	38.2	39.6	49.5	50.5	51.8	53.1	54.1	4.4	5.5	7.7	59 51.87	0.01	3.64	2 59 48.24	15.22
	δ Arietis	30	41.1	43.1	44.4	54.5	55.6	56.8	58.0	59.1	9.4	10.6	12.8	3 56.86	0.01	3.64	3 3 53.23	15.47
	Melpomene	31	31.5	33.5	34.7	44.4	45.4	46.6	47.6	48.7	58.2	59.3	1.4	9 46.48	0.01	3.64	3 9 42.85	- -
	B. A. C. 1046	32	43.4	45.7	47.1	57.8	58.8	0.1	1.5	2.7	13.5	14.7	17.1	15 0.22	0.01	3.64	3 14 56.59	11.64
	Lacaille 1127	33	49.5	51.9	53.4	4.9	6.0	7.4	8.8	10.2	21.8	23.3	25.7	26 7.54	0.01	3.64	3 26 3.91	10.87
	B. A. C. 1119	34	34.3	- -	37.7	47.5	48.6	49.8	51.1	52.2	2.4	- -	5.5	31 49.90	0.01	3.64	3 31 46.27	15.43
	O. Arg. S. 2468	35	1.0	3.2	4.4	14.9	16.0	17.4	18.6	19.8	30.4	31.6	33.8	36 17.37	0.01	3.64	3 36 13.74	11.92
	Weisse (2) 878	36	41.7	43.7	45.0	54.9	55.9	57.2	58.4	59.6	9.5	10.8	12.8	39 57.23	0.01	3.64	3 39 53.60	15.51
	O. Arg. S. 2556	37	25.6	27.7	29.1	39.4	40.4	41.7	42.9	44.0	54.4	55.7	58.0	42 41.72	0.01	3.64	3 42 38.09	12.15
	B. A. C. 1206	38	13.7	15.7	17.0	26.9	27.9	29.2	30.5	31.4	41.5	42.7	44.9	45 29.22	0.01	3.64	3 45 25.59	15.64
	Weisse (2) 1015	39	41.1	43.3	44.6	54.5	55.5	56.8	58.0	59.0	9.3	10.4	12.6	46 56.83	0.01	3.64	3 46 53.20	15.65
	Lacaille 1284	40	41.8	44.0	45.4	56.0	57.0	58.5	59.7	0.9	11.6	13.0	15.2	49 58.46	+ 0.01	3.64	3 49 54.83	11.65
	O. Arg. S. 2666	41	30.2	31.7	33.0	34.5	36.9	.	44.2	46.8	48.1	49.5	50.9	50 10.58	— 0.25	3.64	3 50 7.19	11.65
	O. Arg. S. 2761	42	54.8	57.0	58.3	9.1	10.2	11.5	12.9	14.0	25.1	26.5	28.6	57 11.64	+ 0.01	3.64	3 57 8.01	11.48
	Weisse (2) 1261	43	46.0	48.1	49.3	59.3	0.3	1.5	2.8	3.9	14.2	15.2	17.4	59 1.64	+ 0.01	3.64	3 58 58.01	15.79
	Weisse (2) 1	44	5.5	7.6	9.0	19.0	20.0	21.3	22.4	23.6	33.6	34.9	37.1	2 21.27	— 0.01	3.64	4 2 17.62	15.87
	Weisse (2) 65	45	39.2	41.3	42.6	52.5	53.6	54.9	56.0	57.2	7.2	8.5	10.5	4 54.86	— 0.01	3.64	4 4 51.21	15.86
	O. Arg. S. 2922	46	27.6	29.8	31.2	42.2	43.4	44.7	46.0	47.4	58.6	0.0	2.3	8 44.84	+ 0.03	3.64	4 8 41.23	11.19
	O. Arg. S. 2930	47	30.3	32.6	34.0	45.2	46.3	47.7	49.0	50.2	1.5	2.7	5.1	9 47.69	+ 0.03	3.64	4 9 44.08	11.19
	Weisse (2) 348	48	38.8	40.8	42.2	52.4	53.4	54.5	55.8	57.0	7.1	8.4	10.5	16 54.63	— 0.01	3.64	4 16 50.98	16.07
	Lacaille 1459	49	49.8	52.0	53.4	4.5	5.6	7.0	8.4	9.5	20.7	22.0	24.4	22 7.03	+ 0.03	3.64	4 22 3.42	— 11.28
	Hebe	50	3.4	5.4	6.7	16.2	17.2	18.5	19.7	20.7	30.3	31.6	33.5	25 18.47	+ 0.00	— 3.64	4 25 14.83	- -

3. Through dense clouds.
15. Very faint and unsteady.
19. Steady.
24. Duplex; northward and brighter.

s.
January 16, 21h. to 4h. n. = 0.00.
4h. to 7h. — 0.04.

r.
January 16, 6h. 30m. Image east 0.06. Clamp east.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Jan. 15, 1.6	— 2.48	— 0.049	+ 0.007
19.5	3.35	— 0.043	- -
16, 4.2	— 3.64	+ 0.003	- -

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 16	Lacaille 1522	1	25.4	27.6	28.9	39.5	40.4	41.8	43.1	44.3	54.8	56.1	58.4	29 41.85	+ 0.03	— 3.64	4 29 38.24	— 11.82
Y.	O. Arg. S. 3437	2	. .	. .	. .	21.4	22.8	25.0	42.2	44.9	46.3	47.8	49.2	45 37.45	— 29.26	3.64	4 45 4.55	11.55
	* — 30° 53′	3	11.5	13.9	15.4	26.5	27.5	29.0	30.3	31.7	42.8	44.2	46.6	47 29.04	+ 0.03	3.64	4 47 25.43	11.13
	O. Arg. S. 3506	4	45.5	47.6	48.9	59.3	0.4	1.7	2.9	4.0	14.8	16.0	18.3	50 1.76	+ 0.03	3.64	4 49 58.15	11.99
	O. Arg. S. 3516	5	. .	. .	. .	2.5	3.8	6.0	22.4	25.3	26.5	27.8	29.2	51 17.94	— 28.34	3.64	4 50 45.96	11.98
	* — 28° 38′	6	34.4	36.6	38.1	49.0	50.0	51.4	52.8	53.9	5.0	6.2	8.6	53 51.45	+ 0.03	3.64	4 53 47.84	11.41
	* — 31° 32′	7	58.5	0.9	2.2	13.5	14.6	16.0	17.5	18.7	30.0	31.3	33.8	56 16.09	+ 0.03	3.64	4 56 12.48	11.06
	* — 31° 32′	8	. .	. .	. .	41.4	42.8	45.1	3.0	5.9	7.3	8.7	10.3	56 58.06	— 30.49	3.64	4 56 23.93	11.06
	ε Leporis	9	31.7	33.8	35.0	45.4	46.5	47.8	49.0	50.2	0.8	2.0	4.2	59 47.85	+ 0.02	3.64	4 59 44.23	12.11
	Weisse (2) 49	10	43.4	45.7	46.9	58.2	59.2	0.7	2.0	3.3	14.4	15.7	18.0	4 0.68	— 0.02	3.64	5 3 57.02	17.92
	Weisse (2) 111	11	21.7	24.1	25.6	36.5	37.6	39.0	40.4	41.6	52.8	54.0	56.4	5 39.06	— 0.02	3.64	5 5 35.40	17.93
	Lacaille 1770	12	37.7	40.0	41.5	52.3	53.5	54.8	56.0	57.3	8.4	9.6	12.0	9 54.83	+ 0.03	3.64	5 9 51.22	11.46
	* — 25° 23′	13	8.2	9.5	10.9	12.2	14.9	. .	21.4	24.0	25.4	26.8	28.3	12 48.16	— 0.23	3.64	5 12 44.29	11.82
	* — 25° 25′	14	32.3	34.5	35.9	46.3	47.5	48.9	50.2	51.2	11.9	13.2	15.4	12 48.85	+ 0.03	3.64	5 12 45.24	11.82
	Lacaille 1806	15	15.3	17.6	19.0	30.0	31.1	32.6	33.9	35.0	46.1	47.4	49.7	15 32.52	0.03	3.64	5 15 28.91	11.36
	B. A. C. 1708	16	35.2	37.3	38.4	48.2	49.2	50.4	51.7	52.7	2.6	3.8	5.7	20 50.47	+ 0.02	3.64	5 20 46.85	13.26
	Uranus I	17	26.6	28.0	29.3	30.8	33.1	. .	38.6	41.2	42.6	44.0	45.4	24 5.96	— 0.27	3.64	5 24 2.05	. .
	Uranus II	18	49.8	52.0	53.3	3.8	4.7	5.9	7.3	8.4	19.0	20.4	22.5	24 6.10	— 0.01	3.64	5 24 2.47	. .
	ε Orionis	†19	9.7	11.8	13.0	22.4	23.4	24.6	25.9	26.8	36.4	37.6	39.5	29 24.65	+ 0.01	3.64	5 29 21.02	14.35
	α Columbæ	20	31.2	33.6	35.1	46.6	47.8	49.3	50.7	52.1	3.6	5.1	7.5	34 49.33	+ 0.04	3.64	5 34 45.73	10.80
	O. Arg. S. 4237	21	. .	. .	. .	0.6	1.9	3.1	4.5	5.7	16.7	18.0	20.1	37 8.82	— 5.57	3.64	5 36 59.61	11.60
	O. Arg. S. 4263	22	38.0	40.1	41.5	52.4	53.5	54.7	56.0	57.2	8.3	9.5	11.8	38 54.82	+ 0.03	3.64	5 38 51.21	11.63
	O. Arg. S. 4294	23	56.0	58.1	59.6	10.4	11.4	12.7	14.0	15.2	26.2	27.5	29.9	40 12.82	+ 0.03	3.64	5 40 9.21	11.64
	* (94 W.)	†24	46.2	48.6	49.8	. .	. .	. .	. .	. .	16.3	17.5	19.7	44 3.02	— 0.05	3.64	5 43 59.33	17.47
	Lacaille 2033	25	. .	. .	. .	47.5	48.6	50.1	51.5	52.7	3.7	5.0	7.4	46 55.81	— 5.66	3.64	5 46 46.51	11.43
	O. Arg. S. 4499	26	46.7	49.0	50.4	1.4	2.4	3.7	5.2	6.3	17.4	18.8	21.1	53 3.85	+ 0.03	3.63	5 53 0.25	11.49
	O. Arg. S. 4534	27	55.8	58.2	59.5	10.1	11.3	12.7	14.1	15.3	26.1	27.5	29.8	55 12.76	0.03	3.63	5 55 9.16	11.65
	ν Orionis	†28	39.0	41.2	42.5	52.2	53.2	54.5	55.7	56.6	6.8	8.0	9.9	59 54.51	0.00	3.62	5 59 50.89	16.16
	δ Ursæ Minoris, S. P.	29	0.0	28.0	7.0	. .	11.0	49.5	29.0	. .	28.0	8.3	35.0	15 48.44	0.47	— 3.62	. . . .	. .
17	Moon I	†30	54.2	56.4	57.9	8.2	9.2	10.4	11.6	12.8	23.2	24.6	26.8	16 10.48	. .	. .	. . . .	. .
20	β Cephei	31	53.0	58.8	2.2	29.8	32.8	36.2	39.9	42.8	11.2	14.4	20.3	26 36.49	0.21	+14.27	. . .	0.73
R.	ε Pegasi	32	0.8	2.8	4.0	13.7	14.7	15.9	17.1	18.1	27.8	29.0	31.1	37 15.91	+ 0.02	14.28	21 37 30.21	11.69
	α Piscis Australis	33	. .	38.5	39.9	50.7	51.9	53.3	54.8	55.9	7.1	8.5	. .	49 53.40	— 0.02	14.34	22 50 7.72	13.21
	α Pegasi	34	29.8	31.7	33.0	42.8	43.8	45.1	46.3	47.4	57.4	58.5	0.6	57 45.13	+ 0.03	14.35	22 57 59.51	12.16
	Polaris	35	. .	. .	. .	. .	. .	. .	44.0	21.5	13.0	5.5	58.0	32 4.40	—22 49.12	14.47	. . . .	87.58
	α Ceti	†36	42.5	44.4	45.7	9.5	11.5	12.6	27.6	30.0	31.3	32.4	33.9	55 12.85	15.54	14.54	2 55 11.85	14.01
	B. A. C. 954	†37	. .	. .	. .	23.5	24.8	26.9	43.7	46.3	47.6	49.1	50.5	56 39.05	— 28.53	14.54	2 56 25.06	11.86
	δ Arietis	†38	. .	. .	. .	36.2	37.3	38.6	39.8	41.0	. .	. .	. .	3 38.58	+ 0.07	14.54	3 3 53.19	15.42
21	Sun I	39	13.7	15.8	17.2	27.3	28.3	29.4	30.6	31.8	42.2	43.4	45.6	11 29.57	— 0.04	. .	. . . .	. .
Y.	Sun II	40	32.5	34.6	35.9	46.3	47.4	48.4	49.7	50.9	1.0	2.2	4.5	13 48.49	— 0.04	. .	. . . .	. .
	Moon I	†41	36.0	37.9	39.2	49.6	50.7	52.0	53.3	54.3	4.9	6.2	8.2	50 52.02	+ 0.05	15.33	6 51 7.40	. .
R.	α Lyræ	42	44.4	47.0	48.5	0.5	1.9	3.3	5.0	6.3	18.8	20.4	22.8	32 3.55	0.08	15.59	18 32 19.22	7.32
	α Aquilæ	43	38.0	39.9	40.2	50.8	51.9	53.0	54.1	55.1	5.0	6.1	8.2	43 52.94	+ 0.02	15.61	19 44 8.57	11.46
22	Sun I	†44	26.2	28.3	29.5	39.8	40.7	42.0	43.2	44.2	54.6	55.7	57.7	15 41.99	— 0.03	15.63	20 15 57.59	. .
	Sun II	†45	44.9	47.0	48.5	58.6	59.5	0.8	2.1	3.2	13.7	15.0	17.0	18 0.94	— 0.03	15.63	20 18 16.54	. .
	β Cephei	46	51.3	57.2	0.8	28.6	31.5	34.8	38.2	41.7	9.8	13.3	19.2	26 35.13	+ 0.27	15.65	21 26 51.05	0.70
	α Pegasi	47	28.4	30.3	31.7	41.4	42.5	43.7	44.9	46.0	56.0	57.1	59.3	57 43.75	0.03	15.68	22 57 59.46	12.14
Y.	α Andromedæ	48	49.5	51.9	53.3	4.1	5.2	6.5	7.9	9.0	20.0	21.4	23.7	1 6.59	0.06	. .	. . . .	12.92
	Polaris	49	45.5	42.0	30.5	19.0	54.0	. .	. .	. .	. .	. .	. .	46 38.20	+22 34.64	+15.72	. . . .	— 85.78

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Jan. 20,	0.3 + 14.41	+ 0.048	+ 0.007
21,	20.2 15.10	0.022	. .
22,	2.0 + 15.74	+ 0.020	. .

19. Unsteady.
24. Faint; several stars in the field.
28. Unsteady.
30. Through clouds.
36–37. Through clouds.
38. Through dense clouds.
41. Through clouds.
44–45. Both limbs very badly defined.

			s.
January	20, 21h.	to 0h.	n. = + 0.07.
	1h.	to 4h.	0.04.
	21–22, 20h.	to 2h.	0.09.
	22, 3h.	to 8h.	0.04.
	17h.	to 20h.	+ 0.12.

r.
January 22, 7h. 20m. Image east 0.03. Clamp east.
January 22. Melpomene too faint for observation through the fog; all the obs'ns made through clouds.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 22	Polaris	1	. .	. .	. .	. .	. .	. .	37.5	15.5	7.0	59.5	54.0	31 58.70	—22 47.06	+15.72	. . .	— 85.78
R.	ε Eridani	2	1.8	3.9	5.3	14.9	15.9	17.2	18.5	19.5	29.0	30.4	32.3	26 17.15	0.00	15.77	3 26 32.92	12.78
	10 Tauri	†3	27.0	28.8	30.0	39.6	40.6	41.7	43.0	44.1	53.7	54.9	57.0	29 41.85	+ 0.01	15.77	3 29 57.63	13.91
	Weisse 512	†4	35.6	37.9	39.3	49.8	50.8	52.1	53.3	54.6	5.3	6.6	8.9	23 52.20	0.03	15.79	4 24 8.02	16.86
	Uranus	†5	41.6	43.7	45.2	55.5	56.6	57.9	59.3	0.6	10.9	12.2	14.3	22 57.98	0.02	15.81	5 23 13.81	. .
	α Canis Majoris	†6	40.0	42.2	43.5	53.5	54.5	55.7	56.9	58.0	8.0	9.4	11.4	38 55.74	0.00	15.83	6 39 11.57	12.88
	ζ Geminorum	7	33.4	35.5	36.9	46.8	48.0	49.3	50.6	51.7	2.1	3.3	5.3	55 49.35	0.02	15.84	6 56 5.21	16.90
	τ Geminorum	8	58.4	0.7	2.3	13.2	14.4	15.7	17.0	18.2	29.7	30.9	33.4	2 15.81	0.03	15.74	7 2 31.68	18.16
	δ Geminorum	9	30.6	32.8	34.1	44.2	45.3	46.7	48.1	49.2	59.5	0.7	3.0	11 46.75	0.02	15.84	7 12 2.61	17.04
	Moon I	†10	31.3	33.3	34.6	44.7	45.7	47.0	48.3	49.3	59.8	1.0	3.1	41 47.10	+ 0.02	15.85	7 42 2.97	. .
	φ Geminorum	11	. .	. .	. .	10.5	11.6	13.8	31.0	33.6	35.0	36.5	38.1	45 26.66	— 29.20	15.86	7 45 12.92	17.50
	5 Cancri	12	16.3	18.3	19.7	29.6	30.6	32.0	33.1	34.2	44.3	45.5	47.6	53 31.93	+ 0.02	15.86	7 53 47.81	16.30
	12 Cancri	13	37.5	39.7	40.9	50.6	51.8	53.0	54.1	55.1	5.3	6.8	8.6	0 53.04	+ 0.02	15.86	8 1 8.92	16.00
Y.	Venus II	14	7.4	9.4	10.7	21.0	22.1	23.5	24.6	25.8	36.2	37.5	39.6	19 23.44	— 0.04	15.90	17 19 39.30	0.61
	α Ophiuchi	15	6.0	8.0	9.3	19.0	19.9	21.2	22.4	23.6	33.4	34.6	36.6	28 21.27	+ 0.03	15.90	17 28 37.20	— 11.07
	δ Ursæ Minoris	16	. .	48.0	10.0	49.5	7.0	27.0	46.0	5.0	48.0	8.0	. .	15 27.61	2.33	15.92	. . . .	+ 104.24
	α Lyræ	17	43.9	46.5	48.1	0.3	1.6	3.2	4.7	6.0	18.4	19.8	22.4	32 3.17	0.11	15.92	18 32 19.20	— 7.34
23	Sun I	18	38.4	40.3	41.7	51.9	52.9	54.0	55.2	56.4	6.7	8.0	10.1	19 54.15	0.02	15.96	20 20 10.13	. .
	Sun II	19	56.8	58.8	0.1	10.2	11.3	12.5	13.8	15.0	25.2	26.4	28.7	22 12.62	0.02	15.96	20 22 28.60	. .
	β Cephei	20	51.3	56.8	0.3	. .	31.1	34.9	38.6	. .	9.3	13.0	18.7	26 34.89	0.24	15.98	21 26 51.11	0.68
	ψ Pegasi	21	28.1	30.0	31.4	41.2	42.3	43.5	44.7	45.8	55.8	57.0	59.1	57 43.54	0.02	16.01	22 57 59.57	12.13
	Weisse 746	22	32.7	34.6	35.8	45.7	46.8	48.0	49.2	50.2	0.1	1.3	3.4	43 47.98	0.02	16.08	2 44 4.08	14.60
	Weisse 841	23	14.8	16.8	18.0	27.8	28.9	30.1	31.3	32.4	42.3	43.4	45.6	48 30.13	+ 0.02	16.08	2 48 46.23	14.68
	* — 27° 28′	24	16.7	19.0	20.4	31.2	32.3	33.5	34.9	36.1	47.0	48.3	50.5	52 33.63	— 0.03	16.08	2 52 49.68	11.52
	α Ceti	25	40.7	42.7	43.9	53.6	54.6	55.8	56.9	57.9	7.6	8.8	10.8	54 55.75	+ 0.01	16.08	2 55 11.84	13.97
	* + 13° 44′	26	25.0	26.1	28.4	38.2	39.2	40.4	41.6	42.7	52.7	53.9	56.0	57 40.38	+ 0.02	16.08	2 57 56.48	14.80
	* + 13° 44′	27	. .	. .	. .	0.6	1.7	2.9	4.1	5.1	15.1	16.4	18.5	58 8.05	— 5.08	16.08	2 58 19.05	14.81
	Lacaille 988	28	44.0	46.3	47.7	58.9	59.9	1.3	2.7	4.9	15.1	16.6	19.0	2 1.49	0.03	16.09	3 2 17.55	11.16
	Weisse 101	29	7.5	8.9	10.1	11.4	13.8	. .	15.4	17.7	19.0	20.2	21.7	6 44.57	0.23	16.09	3 7 0.43	14.80
	Vesta	30	18.9	20.2	21.6	22.9	25.2	. .	26.6	29.2	30.4	31.7	33.1	6 55.98	0.23	16.09	3 7 11.84	. .
	* + 12° 37′	31	34.8	36.2	37.5	38.7	40.1	. .	42.6	45.1	46.3	47.8	49.0	7 11.81	— 0.23	16.09	3 7 27.67	14.80
	Weisse (2) 255	32	56.9	59.0	0.3	10.2	11.2	12.4	13.6	14.7	24.7	25.9	28.0	12 12.45	+ 0.03	16.09	3 12 28.57	15.07
	O. Arg. S. 2311	†33	7.8	10.0	11.3	21.7	22.9	24.2	25.5	26.6	37.3	38.5	40.6	23 24.22	— 0.02	16.09	3 23 40.29	11.80
	Lacaille 1134	34	50.4	52.7	54.0	5.2	6.3	7.8	10.2	11.4	21.6	22.9	25.2	28 7.97	— 0.03	16.09	3 28 24.03	11.06
	B. A. C. 1119	35	14.6	16.7	18.0	27.8	28.9	30.2	31.4	32.4	42.5	43.7	46.8	31 30.27	+ 0.03	16.09	3 31 46.39	15.35
	Lacaille 1171	36	. .	. .	. .	59.4	0.4	1.9	3.2	4.5	15.4	16.9	19.2	34 7.61	— 5.69	16.10	3 34 18.02	11.28
	Weisse (2) 878	37	21.9	24.0	25.3	35.2	36.2	37.5	38.7	39.8	49.9	51.0	53.2	39 37.52	+ 0.03	16.10	3 39 53.65	15.44
	Weisse (2) 887	38	. .	. .	. .	14.5	15.7	17.8	33.6	36.1	37.5	38.8	40.1	40 29.26	— 27.10	16.10	3 40 18.26	15.46
	B. A. C. 1206	39	53.8	55.8	57.1	7.0	8.1	9.4	10.6	11.7	21.7	22.9	25.2	45 9.39	+ 0.03	16.10	3 45 25.52	15.56
	Weisse (2) 1015	40	21.5	23.5	24.8	34.7	35.8	37.1	38.4	39.4	49.5	50.6	52.9	46 37.11	+ 0.03	16.10	3 46 53.24	15.57
	γ Eridani	41	11.2	13.3	14.6	24.3	25.4	26.6	27.8	28.8	38.9	40.0	42.2	51 26.65	— 0.01	16.10	3 51 42.74	12.78
	B. A. C. 1250	42	43.1	45.4	46.8	58.0	59.0	0.5	1.9	3.0	14.4	15.8	18.1	55 0.55	— 0.03	16.10	3 55 16.62	11.04
	Weisse (2) 1261	43	26.2	28.3	29.7	39.6	40.7	41.9	43.1	44.3	54.4	55.6	57.7	38 41.95	+ 0.03	16.10	3 38 58.08	15.72
	Weisse (2) 1	44	45.8	47.7	49.0	59.2	0.1	1.4	2.6	3.7	13.8	15.1	17.3	2 1.43	0.03	16.10	4 2 17.56	15.79
	Weisse (2) 65	45	19.3	21.5	22.6	32.6	33.6	34.9	36.0	37.3	47.4	48.6	50.8	4 34.96	+ 0.03	16.11	4 4 51.10	15.79
	* — 29° 10′	46	7.7	10.0	11.5	22.5	23.6	25.0	26.5	27.6	38.8	40.1	42.5	8 25.07	— 0.03	16.11	4 8 41.15	11.23
	* — 29° 10′	47	10.6	. .	14.3	25.3	26.5	27.8	29.3	30.4	41.7	. .	45.5	9 27.93	0.03	16.11	4 9 44.01	11.23
	Lacaille 1485	48	0.6	3.0	4.3	15.3	16.4	17.8	19.0	20.3	31.4	32.8	35.0	24 17.81	0.03	16.11	4 24 33.89	11.23
	O. Arg. S. 3154	49	23.9	26.4	27.5	38.5	39.6	40.9	42.3	43.6	54.5	55.9	58.3	25 41.04	0.03	16.11	4 25 57.12	11.23
	Lacaille 1522	50	5.6	7.8	9.2	19.6	20.7	21.9	23.2	24.4	35.1	36.4	38.6	29 22.05	— 0.02	+16.11	4 29 38.14	— 11.73

3. Stopped by clouds.
4. Clouds.
5. Through clouds.
6. Very unsteady.
10. Badly defined.
33. Saw Melpomene; too faint for observation.

s.
January 23, 20h. to 7h. n. = + 0.07.
7h. to 10h. 0.00.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Jan. 23, 3.8	+ 16.10	+ 0.019	+ 0.007

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 23	* — 27° 31′ . . .	1	59.5	1.7	3.0	13.6	14.9	16.3	17.5	18.8	29.7	31.0	33.2	32 16.29	— 0.03	+16.11	4 32 32.37	— 11.43
	Lacaille 1549 . .	2	35.0	37.2	38.5	59.4	0.6	2.0	3.4	4.6	15.5	16.8	19.1	35 2.01	0.03	16.11	4 35 18.09	11.32
	O. Arg. S. 3326 .	3	3.4	5.5	6.7	17.2	18.3	19.7	20.9	22.0	32.6	33.9	36.1	37 19.66	0.02	16.12	4 37 35.76	11.84
Y.	O. Arg. S. 3360 .	4	45.4	47.5	48.9	59.8	1.0	2.5	3.8	5.0	16.0	17.2	19.6	40 2.43	0.03	16.12	4 40 18.52	11.28
	O. Arg. S. 3437 .	5	31.4	33.7	35.1	45.8	46.9	48.3	49.6	50.7	1.6	2.9	5.3	44 48.30	0.03	16.12	4 45 4.39	11.46
	* — 30° 55′ . . .	6	52.0	54.1	55.6	6.5	7.8	9.1	10.6	11.9	23.0	24.3	26.7	47 9.24	0.03	16.12	4 47 25.33	11.04
	O. Arg. S. 3506 .	7	25.6	27.9	29.2	39.5	40.6	42.0	43.2	44.4	54.9	56.2	58.3	49 41.98	0.03	16.12	4 49 58.07	11.91
	* — 28° 37′ . . .	8	14.7	16.7	18.1	29.1	30.2	31.6	32.9	34.0	45.0	46.5	48.8	53 31.60	0.03	16.12	4 53 47.69	11.33
	Lacaille 1693 . .	9	24.9	27.4	28.7	39.8	41.0	42.4	43.7	45.1	56.4	57.7	0.1	56 42.47	0.03	16.12	4 56 58.56	10.98
	ε Leporis	10	12.0	14.1	15.4	25.7	26.7	28.0	29.4	30.5	40.9	42.0	44.3	59 28.09	0.02	16.12	4 59 44.19	12.04
	O. Arg. S. 3720 .	11	23.0	25.3	26.5	37.2	38.3	39.5	40.8	41.9	52.8	54.0	56.3	3 39.60	0.03	16.12	5 3 55.69	11.71
	Lacaille 1747 . .	12	44.0	46.4	47.7	58.8	59.9	1.3	2.6	3.9	15.1	16.5	18.8	6 1.37	0.03	16.12	5 6 17.46	11.13
	Lacaille 1770 . .	13	18.0	. .	21.7	32.5	33.6	35.0	36.3	37.5	48.5	. .	52.2	9 35.03	0.03	16.12	5 9 51.12	11.38
	* — 25° 22′ . . .	14	48.3	49.9	51.1	52.5	55.1	. .	1.5	4.3	5.6	6.9	8.5	12 28.37	0.29	16.13	5 12 44.21	11.75
	* — 25° 44′ . . .	15	12.5	14.7	16.0	26.5	27.7	28.9	30.3	31.4	42.1	43.4	45.8	12 29.03	0.03	16.13	5 12 45.13	11.75
	O. Arg. S. 3884 .	16	. .	. .	. .	26.1	27.4	29.8	47.2	50.0	51.3	52.8	54.4	15 42.38	29.87	16.13	5 15 28.64	11.29
	Lacaille 1827 . .	17	. .	. .	. .	49.5	50.8	52.2	53.6	54.7	6.2	7.6	9.9	17 58.06	5.86	16.13	5 18 8.33	10.98
	* — 29° 27′ . . .	18	12.7	14.2	15.6	17.0	19.7	. .	28.6	31.7	33.0	34.4	35.8	22 54.27	0.30	16.13	5 23 10.10	11.30
	* — 29° 27′ . . .	19	42.7	45.0	46.4	57.4	58.6	59.9	1.2	2.5	13.5	14.9	17.3	22 59.95	0.03	16.13	5 23 16.05	11.30
	O. Arg. S. 4060 .	20	58.7	0.9	2.2	12.7	13.8	15.0	16.4	17.6	28.4	29.6	31.8	27 15.19	0.03	16.13	5 27 31.29	11.79
	α Columbæ . . .	21	11.3	13.9	15.2	26.8	27.9	29.4	30.7	32.0	43.7	45.1	47.7	34 29.43	0.04	16.13	5 34 45.52	10.73
	* — 27° 35′ . . .	22	18.2	20.4	21.6	32.6	33.5	34.9	36.3	37.4	48.4	49.8	52.0	38 35.01	0.03	16.13	5 38 51.11	11.57
	O. Arg. S. 4263 .	23	36.2	38.4	39.8	50.5	51.6	53.0	54.3	55.5	6.5	7.7	9.9	39 53.04	0.03	16.13	5 40 9.14	11.58
	O. Arg. S. 4355 .	24	37.5	39.5	40.9	51.5	52.7	54.0	55.3	56.5	7.4	8.6	10.9	43 54.07	0.03	16.14	5 44 10.18	11.60
	α Orionis	25	19.6	21.7	23.0	32.6	33.6	34.8	36.0	37.0	46.7	47.9	50.0	47 34.81	0.02	16.14	5 47 50.97	15.29
	O. Arg. S. 4474 .	26	9.7	12.0	13.3	24.2	25.3	26.8	28.0	29.3	40.4	41.6	43.8	51 26.76	0.03	16.14	5 51 42.87	11.48
	O. Arg. S. 4534 .	27	35.9	38.3	39.6	50.3	51.5	52.8	54.2	55.3	6.1	7.4	9.8	54 52.81	0.03	16.14	5 55 8.92	11.60
	* — 28° 34′ . . .	28	22.9	24.4	25.9	27.3	29.9	. .	38.4	41.0	42.3	43.7	45.2	59 4.10	0.30	16.14	5 59 19.94	11.53
	* — 28° 35′ . . .	29	49.2	51.6	53.1	3.9	5.0	6.3	7.7	8.8	19.8	21.1	23.6	59 6.37	0.03	16.14	5 59 22.48	11.53
	Lacaille 2163 . .	30	49.9	52.0	53.5	4.7	5.8	7.1	8.6	9.8	21.1	22.4	24.9	4 7.25	0.03	16.14	6 4 23.36	11.26
	Lacaille 2189 . .	31	8.7	10.9	12.4	23.2	24.2	25.6	26.9	28.1	39.2	40.5	42.8	7 25.68	0.03	16.14	6 7 41.79	— 11.59
	δ Ursæ Minoris, S. P.	32	44.0	10.0	49.5	9.0	52.0	31.7	12.5	54.0	12.0	51.0	17.0	15 31.15	— 1.30	16.15	. . . .	+ 104.17
	Lacaille 3012 . .	33	45.4	47.5	48.8	59.3	0.3	1.6	2.9	4.2	14.7	15.9	18.2	45 1.71	+ 0.01	16.18	7 45 17.90	— 12.60
	O. Arg. N. 8459 .	34	18.7	21.8	23.6	37.6	38.9	40.7	42.4	43.8	58.0	59.8	2.8	49 40.74	0.01	16.18	7 49 56.93	20.74
	5 Cancri	35	15.8	17.8	19.2	29.0	30.1	31.3	32.6	33.7	43.8	45.0	47.1	53 31.40	+ 0.01	16.18	7 53 47.59	16.31
	λ Ursæ Minoris, S. P.	36	. .	. .	. .	27.0	35.0	33.0	30.0	34.0	. .	. .	. .	58 31.80	— 2.85	16.18	. . . .	308.05
	Lacaille 3248 . .	†37	36.1	38.3	39.9	51.3	52.3	53.8	55.1	56.5	7.9	9.2	11.7	11 53.83	+ 0.01	16.19	8 12 10.03	12.01
	Lacaille 3290 . .	38	47.5	49.8	51.3	2.6	3.6	5.1	6.5	7.6	18.8	20.2	22.7	17 5.06	0.01	16.19	8 17 21.26	12.18
	Lacaille 3325 . .	39	17.5	19.7	21.1	32.4	33.4	34.7	36.2	37.5	48.8	50.1	52.4	21 34.89	0.01	16.19	8 21 51.09	12.22
	η Cancri	40	20.8	22.9	24.3	34.5	35.4	36.7	38.0	39.2	49.5	50.8	53.0	24 36.83	0.01	16.19	8 24 53.03	16.54
	B. A. C. 2897 . .	41	. .	16.3	17.5	27.3	28.3	29.4	30.7	31.8	41.5	42.7	. .	29 29.50	0.01	16.19	8 29 45.70	15.56
	Moon II	42	50.7	52.8	54.0	4.0	5.1	6.3	7.6	8.7	18.7	20.1	22.2	33 6.38	0.01	16.19	8 33 22.58	. .
	ε Hydræ	43	5.6	7.5	8.7	18.4	19.3	20.5	21.8	22.8	32.5	33.7	35.7	39 20.59	0.01	16.19	8 39 36.79	15.23
	Lacaille 3546 . .	44	19.9	22.2	23.5	34.7	35.8	37.2	38.6	39.7	51.0	52.3	54.7	43 37.24	0.01	16.19	8 43 53.44	12.50
	Lacaille 3582 . .	45	4.1	6.5	7.9	19.2	20.4	21.8	23.1	24.3	35.7	37.0	39.4	48 21.76	0.01	16.20	8 48 37.97	12.44
	α Cancri	46	33.8	35.7	37.1	46.8	47.9	49.1	50.2	51.3	1.3	2.4	4.5	50 49.10	0.01	16.20	8 51 5.31	15.64
	Lacaille 3636 . .	47	47.2	49.3	50.7	1.4	2.5	3.8	5.1	6.3	16.9	18.3	20.6	55 3.83	0.01	16.20	8 55 20.04	12.93
	κ Cancri	48	3.7	5.7	7.0	6.7	7.7	8.9	10.1	11.2	20.9	22.2	24.3	0 8.95	0.01	16.20	9 0 25.16	15.49
	Lacaille 3702 . .	49	39.7	42.1	43.5	54.5	55.6	57.0	58.3	59.6	10.6	12.0	14.4	3 57.03	0.01	16.20	9 4 13.24	12.74
	Lacaille 3725 . .	50	40.5	42.8	44.3	55.3	56.5	57.8	59.3	0.6	11.6	13.1	15.4	6 57.87	+ 0.01	+16.20	9 7 14.08	— 12.71

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 23, 3.8	+ 16.10	+ 0.019	+ 0.007

37. On fillet; remainder of the night's work on fillet.
January 23. Fine night; stars steady.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 23	Lacaille 3750	1	24.2	26.4	27.8	39.4	40.4	41.8	43.3	44.6	55.9	57.3	59.7	9 41.89	+ 0.01	+16.20	9 9 58.10	— 12.58
Y.	* — 33° 31′	2	34.0	36.4	37.9	49.4	50.6	52.0	53.4	54.7	6.2	7.8	10.1	12 52.05	+ 0.01	16.20	9 13 8.26	12.56
	Lacaille 3784	3	..	..	..	10.2	11.6	14.1	32.2	35.3	36.7	38.2	39.8	14 27.26	— 31.20	16.20	9 14 12.26	12.57
	α Hydræ	4	25.2	27.3	28.6	38.1	39.2	40.4	41.6	42.7	52.5	53.6	55.7	20 40.45	+ 0.01	16.21	9 20 56.67	14.20
24	α Cancri	†5	33.6	35.8	37.1	46.6	47.6	48.8	50.0	51.2	1.0	2.2	4.4	50 48.94	0.03	16.33	8 51 5.30	15.66
	κ Cancri	†6	53.7	55.7	56.9	6.5	7.6	8.8	10.1	11.2	20.8	22.1	24.0	0 8.85	0.03	16.33	9 0 25.21	15.51
	83 Cancri	†7	53.6	55.6	57.0	7.0	8.1	9.4	10.6	11.5	21.8	23.0	25.1	11 9.34	0.04	16.33	9 11 25.71	15.94
	Moon II	8	30.5	32.5	33.7	43.4	44.6	45.9	47.1	48.2	58.1	59.5	1.5	20 45.91	0.03	16.33	9 21 2.27	..
	ξ Leonis	9	7.6	9.6	10.8	20.6	21.6	22.8	24.0	25.1	34.9	36.2	38.3	24 22.86	0.03	16.33	9 24 39.22	15.43
	o Leonis	10	24.2	26.2	27.5	37.2	38.1	39.4	40.7	41.6	51.4	52.6	54.7	33 39.42	0.03	16.33	9 33 55.78	15.28
	ε Leonis	11	37.2	39.3	40.7	51.1	52.3	53.6	55.0	56.1	6.6	7.9	10.2	37 53.64	+ 0.05	16.33	9 37 10.02	16.17
	18 Leonis	12	..	..	..	1.7	3.0	4.9	20.5	23.1	24.3	25.6	26.9	39 16.25	— 26.61	16.33	9 39 5.97	15.37
	μ Leonis	13	30.8	32.9	34.4	44.9	46.1	47.5	48.8	49.8	0.7	2.1	4.4	44 47.49	+ 0.06	16.33	9 45 3.88	16.19
	π Leonis	14	32.4	34.4	35.5	45.2	46.2	47.4	48.6	49.7	59.5	0.7	2.7	52 47.48	0.02	16.33	9 53 3.83	15.05
R.	α Lyræ	15	43.7	46.3	47.7	0.0	1.3	2.7	4.2	5.5	18.0	19.5	21.9	32 2.80	0.14	16.34	18 32 19.28	7.38
	α Aquilæ	16	36.7	39.0	40.3	49.9	51.0	52.1	53.2	54.4	4.3	5.5	7.5	43 52.17	+ 0.03	16.32	19 44 8.52	11.51
25	Sun I	17	0.5	2.6	3.9	13.8	14.9	16.2	17.4	18.5	28.8	30.2	32.3	28 16.28	— 0.05	16.31	20 28 32.54	..
	Sun II	18	18.6	20.5	21.8	32.0	33.0	34.3	35.5	36.6	46.8	48.0	50.3	30 34.21	— 0.05	16.31	20 30 50.57	..
	α Pegasi	19	27.9	29.9	31.2	40.9	42.0	43.1	44.4	45.6	55.5	56.7	58.7	57 43.26	+ 0.05	16.27	22 57 59.58	12.12
Y.	α Andromedæ	20	49.0	51.2	52.7	3.4	4.6	6.0	7.3	8.5	19.4	20.7	23.0	1 5.98	0.09	..	..	12.88
	Polaris	21	36.5	35.5	24.0	10.5	47.0	..	..	..	..	..	..	46 30.70	22 38.34	16.26	..	83.00
R.	* + 12° 22′	22	50.5	52.4	53.7	3.5	4.5	5.7	7.0	8.0	17.8	19.0	21.2	41 5.75	+ 0.04	16.29	2 41 22.01	14.50
	Weisse 724	23	..	..	..	28.6	29.6	30.8	32.0	33.1	42.8	44.1	46.4	42 35.92	— 5.05	16.29	2 42 47.16	14.58
	Weisse 841	24	14.5	16.5	17.7	27.6	28.6	29.8	31.0	32.0	42.1	43.3	45.3	28 29.85	+ 0.04	16.29	2 28 46.18	14.65
	Lacaille 933	25	49.3	51.4	52.9	3.4	4.4	5.8	7.3	8.3	18.6	20.0	22.3	51 5.79	— 0.06	16.29	2 51 23.02	11.76
	Weisse 976	26	33.0	34.9	36.2	46.0	47.1	48.3	49.6	50.7	0.7	1.7	3.8	55 48.36	+ 0.04	16.29	2 56 4.69	14.77
	* + 13° 44′	27	..	..	..	37.9	38.9	40.1	41.3	42.5	52.4	53.7	55.4	57 45.28	— 5.06	16.29	2 57 56.51	14.78
	* + 13° 44′	28	..	..	..	0.4	1.4	2.6	3.9	5.0	14.9	16.1	18.2	58 7.81	— 5.06	16.29	2 58 19.04	14.78
	δ Arietis	29	20.9	22.9	24.3	34.4	35.5	36.7	38.0	39.1	49.3	50.5	52.8	3 36.76	+ 0.06	16.30	3 3 53.12	15.35
	Vesta	30	38.2	40.1	41.4	51.2	52.3	53.5	54.8	55.7	5.6	6.9	9.0	7 53.52	0.04	16.30	3 8 9.86	..
	Weisse 173	31	22.5	24.5	25.8	35.7	36.7	38.0	39.3	40.3	50.3	51.4	53.7	10 38.02	+ 0.04	16.30	3 10 54.36	14.98
	B. A. C. 1049	32	56.3	58.4	59.8	10.1	11.2	12.5	13.8	15.0	25.6	26.9	29.1	15 12.61	— 0.06	16.30	3 15 28.85	11.75
	Melpomene	33	23.8	25.9	27.1	36.7	37.7	38.8	40.0	41.1	50.8	52.0	54.0	18 38.90	+ 0.02	16.31	3 18 55.23	..
	* + 5° 9′	34	..	..	..	..	..	..	41.4	43.7	45.0	46.3	47.6	19 44.80	— 33.77	16.31	3 19 27.34	14.25
	Hebe	35	14.4	16.4	17.5	27.0	28.2	29.5	30.7	31.7	40.8	42.4	44.3	26 29.35	+ 0.02	16.39	4 26 45.76	..
	* — 27° 32′	36	59.2	1.5	2.7	13.5	14.6	16.0	17.3	18.6	29.3	30.8	33.0	32 16.05	— 0.07	16.39	4 32 32.37	11.40
	Lacaille 1549	37	44.9	47.0	48.4	59.3	0.3	1.6	3.0	4.0	15.4	16.5	18.8	35 1.75	— 0.07	16.39	4 35 18.07	11.30
	O. Arg. S. 3326	38	3.1	5.2	6.5	16.8	17.9	19.3	20.5	21.6	32.4	33.5	35.7	37 19.32	0.06	16.39	4 37 35.65	11.82
	O. Arg. S. 3691	39	47.0	49.3	50.7	1.6	2.8	4.0	5.5	6.6	17.5	19.0	21.0	2 4.09	0.05	16.41	5 2 20.45	11.25
	Weisse 136	40	31.5	33.4	34.8	44.8	45.7	46.7	47.8	48.9	58.5	59.8	1.8	6 46.70	0.01	16.41	5 7 3.10	13.52
	β Orionis	41	30.6	32.6	33.8	43.4	44.4	45.9	47.0	48.0	57.8	59.0	1.0	7 45.77	0.01	16.41	5 8 2.17	13.51
	O. Arg. S. 3830	42	..	..	..	48.7	49.9	52.0	9.2	11.9	13.3	14.8	15.6	12 4.55	29.35	16.41	5 11 51.61	11.49
	O. Arg. S. 3866	43	27.2	29.0	30.5	41.5	42.6	44.0	45.3	46.4	57.5	58.9	1.0	13 43.99	— 0.04	16.41	5 14 0.36	11.48
	Uranus	44	18.8	20.9	22.1	32.6	33.6	35.0	36.2	37.5	48.0	49.3	51.4	22 35.04	+ 0.05	16.42	5 22 51.51	..
	* — 29° 7′	45	..	..	..	57.3	58.6	1.0	18.4	21.0	22.3	23.8	25.2	53 13.45	— 29.82	16.43	5 53 0.06	11.42
	O. Arg. S. 4527	46	15.0	17.1	18.5	29.7	30.8	32.0	33.5	34.7	45.8	47.0	49.4	54 32.14	— 0.05	16.43	5 54 48.52	11.42
	ν Orionis	47	18.8	20.9	22.1	32.0	33.0	34.3	35.5	36.5	46.5	47.8	50.0	59 34.31	+ 0.03	16.44	5 59 50.88	16.14
	B. A. C. 1995	48	38.9	41.2	42.3	53.2	54.3	55.6	57.0	58.1	8.8	10.3	12.7	4 55.67	— 0.04	16.44	6 5 12.07	11.71
	Lacaille 2177	49	31.8	33.9	35.2	46.2	47.1	48.4	49.8	51.0	1.9	3.1	5.2	5 48.50	— 0.04	16.44	6 6 4.91	11.70
	μ Geminorum	50	14.0	15.9	17.5	27.7	28.9	30.2	31.4	32.5	43.1	44.4	46.3	14 30.17	+ 0.05	+16.44	6 14 46.66	— 17.14

5. Through clouds; on fillet.
6. Through clouds; very faint.
7. Faint.

		n. =
January	24,	+ 0.10.
	24–25, 18h. to 2h.	0.16.
	25, 2h. to 5h.	0.14.
	5h. to 7h.	0.10.
	9h. to 11h.	0.06.
	25–26, 17h. to 23h.	+ 0.10.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Jan. 24, 9.5	+ 16.33	+ 0.006	+ 0.007
25, 22.5	16.28	0.015	..
6.7	16.46	0.031	..
19.4	+ 16.60	+ 0.010	..

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 25	O. Arg. S. 5082	1	55.5	57.7	59.0	10.2	11.2	12.8	13.9	15.2	26.3	27.7	29.8	19 12.66	— 0.05	+16.45	6 19 29.06	— 11.58
R.	*a* Canis Majoris	2	39.4	41.3	42.6	52.7	53.9	55.0	56.3	57.3	7.5	8.6	10.3	38 54.99	— 0.02	16.46	6 39 11.43	12.87
	o Leonis	3	24.2	26.3	27.4	37.0	38.1	39.3	40.4	41.5	51.4	52.6	54.4	33 39.33	+ 0.03	16.55	9 33 55.91	15.30
	ε Leonis	4	- -	- -	- -	- -	- -	- -	26.8	29.2	30.7	32.0	33.4	38 30.42	— 36.91	16.55	9 38 10.06	16.19
	18 Leonis	5	- -	- -	- -	- -	- -	- -	20.5	22.9	24.0	25.4	26.7	39 23.90	— 34.44	16.55	9 39 6.01	15.38
	Moon II	6	1.3	3.2	4.5	14.4	15.3	16.4	17.7	18.8	28.7	29.9	31.9	7 16.55	+ 0.01	16.57	10 7 33.13	- -
	γ Leonis	7	58.0	0.1	1.5	11.8	12.8	14.0	15.2	16.4	26.7	27.8	30.1	12 14.04	0.03	16.57	10 12 30.64	15.62
	43 Leonis	8	24.0	26.1	27.3	37.0	37.9	39.1	40.3	41.3	51.1	52.2	54.4	15 39.15	0.01	16.57	10 15 55.73	14.88
Y.	*a* Ophiuchi	9	5.3	7.4	8.7	18.4	19.4	20.6	21.9	23.0	32.8	34.0	36.2	28 20.70	+ 0.03	16.58	17 28 37.31	11.15
	Venus II	10	15.6	17.5	18.9	29.0	30.2	31.4	32.7	34.0	44.2	45.7	47.9	34 31.56	— 0.03	16.58	17 34 48.11	— 0.59
	δ Ursæ Minoris	†11	16.0	49.0	9.0	50.0	7.0	27.0	- -	5.5	- -	- -	- -	13 49.07	+ 1 40.70	16.59	- - - -	+ 103.81
	α Lyræ	12	43.3	46.0	47.6	59.7	1.0	2.6	4.0	5.3	17.7	19.3	22.0	32 2.59	+ 0.09	16.59	18 32 19.27	— 7.40
	β Lyræ	†13	- -	- -	- -	43.7	44.8	46.2	47.5	48.8	0.4	1.8	4.2	44 52.18	— 5.85	16.59	18 45 2.92	8.27
26	Sun I	14	10.2	12.3	13.6	23.7	24.7	26.0	27.2	28.4	38.5	39.7	41.9	32 26.02	0.03	16.61	20 32 42.60	- -
	Sun II	15	27.9	30.0	31.3	41.3	42.5	43.7	45.0	46.0	56.4	57.6	59.6	34 43.75	— 0.03	16.61	20 35 0.33	- -
	α Pegasi	16	27.5	29.5	30.7	40.5	41.5	42.8	44.0	45.1	55.0	56.3	58.4	57 42.85	+ 0.03	16.62	22 57 59.50	12.12
	Vesta	17	8.6	10.7	12.0	21.7	22.7	23.9	25.0	26.3	36.2	37.4	39.5	8 24.00	0.00	17.10	3 8 41.10	- -
	Lacaille 1113	†18	6.8	9.0	10.4	20.8	21.9	23.2	24.5	25.7	36.3	37.6	39.9	23 23.28	0.03	17.11	3 23 40.42	11.75
	ε Eridani	19	0.7	2.7	4.0	13.6	14.6	15.9	17.0	18.0	27.8	29.0	31.0	26 15.85	+ 0.01	17.11	3 26 32.97	12.73
	B. A. C. 1119	20	13.6	15.7	17.0	26.9	28.0	29.2	30.5	31.6	41.5	42.8	44.9	31 29.25	— 0.01	17.11	3 31 46.35	15.31
	Lacaille 1199	21	49.4	51.6	53.1	4.0	5.1	6.4	7.7	8.9	20.2	21.6	23.8	38 6.53	+ 0.03	17.12	3 38 23.68	11.21
	Weisse (2) 887	22	-	- -	- -	13.5	14.9	16.9	32.6	35.3	36.6	37.9	39.2	40 28.36	— 27.14	17.12	3 40 18.34	15.43
	B. A. C. 1206	23	52.7	54.8	56.1	6.0	7.0	8.3	9.7	10.7	20.9	22.0	24.3	45 8.41	0.01	17.12	3 45 25.52	15.52
	Weisse (2) 1015	24	20.4	22.5	23.9	33.8	34.8	36.1	37.4	38.6	48.6	49.9	52.0	46 36.18	0.01	17.12	3 46 53.29	15.53
	γ Eridani	†25	- -	- -	- -	23.2	24.3	25.6	26.8	27.8	37.9	39.0	41.1	51 30.71	5.11	17.12	3 51 42.72	12.74
	Weisse (2) 1261	26	25.3	27.4	28.6	38.6	39.7	40.9	42.2	43.3	53.3	54.8	56.9	58 41.02	— 0.01	17.13	3 58 58.14	15.70
	Lacaille 1370	27	43.9	45.9	47.4	57.9	59.0	0.3	1.7	2.8	13.5	14.8	17.0	4 0.38	+ 0.03	17.14	4 4 17.55	11.60
	Weisse (2) 118	†28	46.2	48 4	49.9	- -	- -	- -	- -	- -	17.5	19.0	21.5	7 3.75	— 0.07	17.14	4 7 20.82	17.41
	Weisse (2) 120	29	3.9	5.1	6.7	7.8	9.3	- -	41.7	42.8	46.4	47.9	49.4	7 26.10	19.68	17.14	4 7 23.56	17.41
	Weisse (2) 248	30	0.4	2.5	3.7	13.8	14.9	16.1	17.5	18.5	28.7	30.0	32.0	12 16.19	— 0.01	17.14	4 12 33.32	15.92
	Weisse (2) 363	31	3.3	5.3	6.5	16.7	17.7	19.0	20.2	21.3	- -	- -	- -	17 13.75	+ 5.25	17.14	4 17 36.14	15.98
	Weisse (2) 376	31	26.0	28.1	29.4	39.5	40.5	41.8	43.0	44.1	54.4	55.5	57.8	17 41.83	— 0.01	17.14	4 17 58.96	15.98
	Weisse 512	33	34.4	36.6	38.0	48.6	49.7	50.9	52.1	53.5	3.9	5.3	7.4	23 50.95	0.01	17.15	4 24 8.09	16.77
	Hebe	34	32.8	34.8	36.1	45.6	46.6	47.9	49.0	50.1	59.8	1.0	3.0	26 47.88	— 0.00	17.15	4 27 5.03	14.69
	* — 27° 52′	35	58.5	0.7	2.1	12.8	14.0	15.2	16.4	17.7	28.7	29.9	32.2	32 15.29	+ 0.03	17.15	4 32 32.47	11.38
	Lacaille 1549	36	44.0	46.2	47.5	58.4	59.6	0.9	2.2	3.5	14.4	15.8	18.0	25 0.95	0.03	17.16	4 35 18.14	11.28
	O. Arg. S. 3326	37	2.4	4.5	5.7	16.2	17.3	18.6	19.8	21.0	31.5	32.9	34.9	37 18.62	+ 0.03	17.16	4 37 35.81	11.80
	O. Arg. S. 3360	†38	44.3	46.4	47.9	- -	- -	- -	- -	- -	15.0	16.3	18.4	40 1.38	— 0.02	17.16	4 40 18.52	11.23
	O. Arg. S. 3437	39	30.4	32.6	33.9	44.7	45.8	47.1	48.6	49.8	0.5	1.7	4.0	44 47.19	+ 0.03	17.16	4 45 4.38	11.42
	* — 30° 52′	40	50.7	53.1	54.4	5.6	6.7	8.1	9.5	10.7	21.9	23.3	25.7	47 8.15	0.03	17.16	4 47 25.34	11.00
	O. Arg. S. 3506	41	24.6	26.8	28.0	38.5	39.6	40.7	42.0	43.2	53.8	55.0	57.2	49 40.85	0.03	17.17	4 49 58.05	11.87
	* — 28° 37′	42	13.5	15.8	17.2	28.0	29.2	30.5	31.9	33.1	44.0	45.5	47.7	53 30.58	0.03	17.17	4 53 47.78	11.29
	11 Orionis	43	17.5	19.6	20.8	30.7	31.8	33.0	34.3	35.3	45.3	46.5	48.6	56 33.04	0.00	17.17	4 56 50.21	15.90
	O. Arg. S. 3691	44	- -	48.4	49.9	0.7	1.8	3.3	4.6	5.7	17.0	18.1	- -	2 3.28	+ 0.06	17.17	5 2 20.51	11.24
	Uranus	45	11.3	13.4	14.7	25.0	26.1	27.5	28.8	29.9	40.4	41.6	43.9	22 27.51	— 0.03	17.19	5 2 44.67	- -
	ε Orionis	†46	48.6	50.5	51.7	1.4	2.4	3.6	4.9	5.8	15.4	16.6	18.6	29 3.60	+ 0.01	17.19	5 29 20.80	14.30
	O. Arg. N. 6159	47	27.5	33.4	37.7	7.1	10.0	13.6	17.7	20.7	50.4	54.4	0.5	36 13.91	— 0.21	17.20	5 36 30.90	33.86
	O. Arg. N. 6250	48	49.8	56.3	0.1	29.8	33.2	36.7	40.4	43.9	14.4	18.0	24.5	42 36.01	0.21	17.20	5 42 54.00	34.30
	O. Arg. N. 6390	49	54.8	1.4	5.3	36.8	40.1	44.0	47.8	51.2	22.8	27.0	33.6	51 44.07	0.23	17.21	5 52 1.05	35.35
	* + 73° 33′	50	- -	- -	- -	42.3	46.3	50.7	54.7	57.2	- -	- -	- -	56 50.24	— 0.08	+17.21	5 57 7.37	— 37.14

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
	-		
	h. s.	s.	s.
Jan. 26, 7.7	+ 17.28	+ 0.040	+ 0.007

11. Very faint.
13. Faint.
18. Saw Melpomene; too faint for observation.
25. Rather hurried.
28. Headed by a smaller star.
38. Uncertain; under clouds.
46. Unsteady.

s.
January 26, 3h. to 5h. n. = — 0.04.
5h. to 12h. — 0.08.

r.
January 26, 6h. 50m. Image west 0.04. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 26	* (116 W.)	1	12.9	20.1	24.2	57.9	1.7	5.5	9.9	13.8	47.5	52.4	59.5	58 5.95	— 0.25	+17.21	5 58 22.91	— 37.19
Y.	O. Arg. S. 4680	2	42.7	45.0	46.4	57.7	58.7	0.0	1.3	2.6	14.0	15.2	17.7	2 0.12	+ 0.06	17.21	6 2 17.39	11.27
	O. Arg. N. 6682	3	37.8	44.6	49.0	22.5	26.0	30.3	34.3	38.2	11.9	16.4	23.4	8 30.40	— 0.25	17.22	6 8 47.37	— 37.11
	δ Ursæ Minoris, S. P.	4	. .	. .	. .	6.0	48.5	29.5	9.0	51.0	. .	. .	. .	15 28.80	+ 0.43	17.22	. . . .	+ 103.72
	γ Geminorum	5	21.2	23.0	24.3	34.3	35.3	36.6	37.8	38.8	48.8	50.1	52.3	29 36.59	— 0.02	17.23	6 29 53.80	— 16.41
	51 Cephei	6	. .	. .	. .	15.0	35.5	1.0	26.0	45.5	. .	. .	. .	36 0.60	— 0.53	17.24	6 36 17.31	157.14
	Lacaille 3923	7	54.8	57.3	58.5	9.0	9.9	11.2	12.5	13.6	24.4	25.4	27.7	30 11.31	+ 0.04	17.35	9 30 28.70	13.37
	B. A. C. 4098	8	. .	. .	. .	50.8	52.1	54.5	11.9	14.6	16.1	17.6	19.4	32 7.12	— 30.01	17.35	9 31 54.46	13.03
	Lacaille 3976	9	23.3	25.6	27.0	37.9	39.0	40.4	41.7	42.8	54.1	55.4	58.7	35 40.54	+ 0.05	17.36	9 35 57.95	13.10
	Weisse (2) 832	10	11.2	13.3	14.6	24.6	25.7	26.9	28.0	29.4	39.3	40.6	42.5	39 26.92	— 0.02	17.36	9 39 44.26	15.63
	μ Leonis	†11	29.6	31.8	33.1	43.9	45.0	46.3	47.5	49.0	59.8	1.2	3.5	44 46.43	— 0.03	17.36	9 45 3.76	16.23
	* — 32° 44′	12	44.5	46.8	48.4	59.6	0.7	2.2	3.5	4.8	16.3	17.7	20.1	49 2.24	+ 0.06	17.36	9 49 19.66	13.07
	B. A. C. 3405	13	6.6	8.9	10.5	21.8	23.0	24.5	25.8	27.2	38.5	40.0	42.3	50 24.46	+ 0.06	17.37	9 50 41.89	13.08
	Lacaille 4089	14	. .	. .	. .	36.3	37.8	40.0	57.2	59.9	1.4	2.9	4.3	52 52.48	— 29.60	17.37	9 52 40.25	13.32
	Lacaille 4115	15	2.6	4.8	6.2	27.1	28.2	29.8	31.0	32.3	43.5	44.8	47.1	56 29.76	+ 0.05	17.37	9 56 47.18	13.30
	Lacaille 4142	16	1.4	3.6	5.0	16.5	17.7	19.1	20.5	21.8	33.1	34.6	36.9	59 19.11	0.06	17.37	9 59 36.54	13.19
	* — 32° 12′	17	. .	. .	. .	32.5	33.6	35.0	36.6	37.7	. .	. .	. .	2 35.18	0.12	17.37	10 2 52.67	13.25
	Lacaille 4165	18	58.4	0.6	2.0	13.5	14.6	16.0	17.4	18.6	30.0	31.5	33.8	3 16.04	0.06	17.37	10 3 33.47	13.26
	Lacaille 4185	19	14.6	16.9	18.3	29.8	31.0	32.6	33.9	35.1	46.7	48.2	50.6	5 30.52	+ 0.06	17.38	10 5 47.96	13.22
	B. A. C. 3497	20	41.1	42.3	44.1	45.5	46.9	. .	23.5	26.6	28.2	29.8	30.5	8 5.95	— 21.74	17.38	10 8 1.59	12.96
	B. A. C. 3498	21	51.2	52.3	53.9	55.5	56.8	. .	. .	36.4	37.8	39.5	41.3	8 13.86	19.80	17.38	10 8 11.44	12.97
	γ Leonis	†22	57.2	59.4	0.6	11.0	12.0	13.3	14.6	15.6	25.8	27.1	29.2	12 13.25	0.02	17.38	10 12 30.61	15.64
	43 Leonis	23	23.2	25.2	26.4	36.0	37.0	38.4	39.5	40.4	49.9	51.1	53.4	15 38.23	0.00	17.38	10 15 55.61	14.89
	45 Leonis	24	57.6	59.7	1.0	10.7	11.7	12.9	14.1	15.2	24.9	26.0	28.2	20 12.91	— 0.01	17.39	10 20 30.29	15.00
	Lacaille 4324	†25	57.2	59.4	0.7	11.3	12.4	13.7	15.4	16.6	27.3	28.5	30.9	25 13.95	+ 0.05	17.39	10 25 31.39	13.67
	Lacaille 4340	†26	. .	. .	. .	11.4	12.6	13.9	15.2	16.4	27.2	28.4	30.6	27 19.46	— 5.49	17.39	10 27 31.36	13.72
	Lacaille 4360	27	. .	. .	. .	38.1	39.5	41.8	58.8	1.2	2.7	4.6	5.5	29 53.95	— 28.88	17.39	10 29 42.46	13.76
	Lacaille 4382	28	10.8	12.9	14.4	25.1	26.3	27.5	28.8	29.9	40.6	41.8	43.9	32 27.45	+ 0.05	17.39	10 32 44.89	13.82
	Lacaille 4406	29	53.6	55.8	57.1	7.6	8.7	10.0	11.3	12.3	23.3	24.5	26.7	35 10.08	+ 0.05	17.40	10 35 27.53	13.82
	l Leonis	30	36.0	37.9	39.2	48.8	49.9	51.1	52.2	53.3	3.4	4.5	6.4	41 51.15	— 0.01	17.40	10 42 8.54	14.86
	Dorpat 1482 (1st *)	†31	13.0	14.2	15.7	16.7	19.2	. .	19.7	22.2	23.3	24.7	26.0	44 49.47	0.25	17.40	10 45 6.62	14.74
	Dorpat 1482 (2d *)	32	34.8	36.8	38.0	47.6	48.7	50.0	51.0	52.2	1.8	3.0	5.0	44 49.90	0.01	17.40	10 45 7.29	14.74
	Lalande 21014	33	28.7	30.9	32.2	42.7	43.7	45.1	46.4	47.6	58.1	59.4	1.5	48 45.12	— 0.03	17.40	10 49 2.49	15.23
	Moon II	34	55.9	58.0	59.2	8.8	9.8	11.0	12.3	13.3	23.0	24.3	26.2	53 11.08	0.00	17.41	10 53 28.49	. .
	p^1 Leonis	35	23.4	25.3	26.4	36.0	37.0	38.3	39.4	40.6	50.0	51.4	53.4	54 38.29	+ 0.01	17.41	10 54 55.71	14.44
	χ Leonis	36	29.8	31.8	33.1	42.6	43.7	44.8	46.0	47.1	56.8	57.9	0.0	57 44.87	0.00	17.41	10 58 2.28	14.55
	Lacaille 4614	37	33.9	36.2	37.6	48.6	49.7	51.1	52.5	53.6	4.7	6.0	8.4	1 51.12	0.05	17.41	11 2 8.58	13.98
	Lacaille 4638	38	48.6	50.7	52.0	2.6	3.6	4.8	6.0	7.2	18.1	19.4	21.5	5 4.95	0.05	17.42	11 5 22.42	14.06
	ϕ Leonis	39	14.5	16.5	17.9	27.5	28.4	29.6	30.8	31.8	41.5	42.6	44.5	9 29.60	0.01	17.42	11 9 47.03	14.37
	δ Crateris	40	2.1	4.1	5.3	15.1	16.3	17.4	18.7	19.7	29.7	30.8	32.9	12 17.46	0.03	17.42	11 12 34.91	14.19
R.	Venus II	41	19.4	21.4	22.9	33.0	34.2	35.4	36.8	38.0	. .	. .	. .	39 30.14	5.29	17.39	17 39 52.82	0.59
	α Aquilæ	42	36.1	38.1	39.4	49.0	50.0	51.0	52.3	53.5	3.0	4.2	6.5	43 51.19	+ 0.04	17.39	19 44 8.62	11.53
27	Sun I	43	18.6	20.7	21.8	31.9	33.1	34.4	35.6	36.7	46.8	48.0	50.3	36 34.35	— 0.07	17.39	20 36 51.67	. .
	Sun II	44	36.3	38.6	39.8	49.6	50.8	52.0	53.4	54.4	4.7	5.9	7.9	38 52.13	— 0.07	17.39	20 39 9.45	. .
	ε Pegasi	45	57.5	59.7	1.0	10.6	11.6	12.8	14.0	15.0	25.0	26.1	28.2	37 12.86	+ 0.05	17.39	21 37 30.30	11.70
	α Piscis Australis	46	33.0	35.4	36.7	47.7	48.8	50.0	51.6	52.9	4.0	5.3	7.8	49 50.29	— 0.13	17.39	22 50 7.55	13.18
	α Pegasi	47	26.6	28.7	29.9	39.7	40.7	42.0	43.2	44.4	54.3	55.4	57.6	57 42.05	+ 0.07	17.39	22 57 59.51	12.11
Y.	α Andromedæ	48	47.8	50.0	51.5	2.2	3.4	4.7	6.0	7.2	18.2	19.6	21.9	1 4.77	0.14	17.39	0 1 22.30	12.86
	Polaris	49	30.5	26.0	14.5	1.0	38.0	. .	. .	. .	. .	. .	. .	46 22.00	22 40.72	17.39	1 9 20.11	81.66
R.	δ Arietis	50	19.7	21.7	23.1	33.0	34.1	35.4	36.6	37.8	48.0	49.3	51.4	3 35.46	+ 0.07	+17.59	3 3 53.12	— 15.32

11. Unsteady.
22. Unsteady.
25. Unsteady.
26. Faint.
31. Faint.

January 26–27, 17h. to 2h. n. = + 0.24 s.
27, 3h. to 5h. 0.18.
5h. to 7h. + 0.06.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 27, 22.2	+ 17.39	0.000	+ 0.007
8.1	17.77	+ 0.035	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 27	Lacaille 1010	1	1.4	3.5	4.9	15.6	16.8	18.0	19.4	20.6	31.8	33.0	35.3	7 18.21	— 0.09	+17.60	3 7 35.72	— 11.35
	Vesta	2	..	..	..	..	..	..	26.8	29.4	30.5	31.8	33.2	9 30.34	— 34.48	17.60	3 9 13.46	..
	Weisse (2) 255	3	55.5	57.5	58.7	8.5	9.6	10.8	12.0	13.2	23.3	24.5	26.5	12 10.92	+ 0.06	17.60	3 12 28.58	15.01
R.	B. A. C. 1047	4	23.8	25.9	27.3	38.1	39.0	40.4	41.6	42.9	53.8	55.1	57.5	14 40.49	— 0.09	17.60	3 14 58.00	11.43
	Lacaille 1079	5	23.2	25.5	26.8	37.7	38.8	40.2	41.5	42.8	53.7	54.9	57.2	17 40.21	— 0.09	17.60	3 17 57.72	11.30
	Melpomene	†6	41.1	43.0	44.4	53.9	54.9	56.2	57.4	58.5	8.0	9.2	11.6	20 56.20	+ 0.02	17.60	3 21 13.82	14.26
	* + 5° 27′	7	53.6	55.6	56.8	6.4	7.4	8.6	9.8	10.8	20.6	21.7	23.8	22 8.65	+ 0.02	17.61	3 22 26.28	14.27
ε	Eridani	8	0.2	2.1	3.5	13.0	14.1	15.3	16.4	17.6	27.3	28.5	30.5	26 15.32	— 0.02	17.61	3 26 33.91	12.71
	Lacaille 1580	9	54.9	57.0	58.3	8.9	9.9	11.3	12.7	13.7	24.4	25.6	28.1	40 11.35	0.08	17.65	4 40 28.92	11.62
	O. Arg. S. 3437	10	29.9	32.1	33.5	44.4	45.5	46.6	48.0	49.3	0.1	1.4	3.8	44 46.78	— 0.09	17.65	4 45 4.34	11.40
ι	Aurigæ	11	34.4	37.6	39.0	50.5	51.6	53.1	54.5	55.7	7.3	8.7	11.0	47 53.13	+ 0.13	17.65	4 48 10.91	18.09
	Lacaille 1659 (1st *)	12	12.3	14.6	16.3	..	..	..	..	..	47.1	48.6	51.2	50 31.68	— 0.19	17.66	4 50 49.15	9.74
	Lacaille 1659 (2d *)	13	..	..	..	33.8	35.2	36.8	38.4	39.7	..	..	..	50 36.78	0.08	17.66	4 50 54.36	9.74
	Lacaille 1678	14	0.4	2.8	4.2	16.4	17.6	19.0	20.6	21.9	33.9	35.3	37.8	54 19.08	0.13	17.66	4 54 36.61	10.16
γ^1	Cœli	15	56.8	59.2	0.8	12.6	13.6	15.2	16.6	17.9	29.8	31.2	33.8	59 15.23	0.12	17.66	4 59 32.77	10.37
	O. Arg. S. 3717	16	18.0	20.3	21.5	31.9	33.1	34.6	35.8	37.0	47.8	49.1	51.3	3 34.58	0.02	17.66	5 3 52.22	11.67
	* — 25° 24′	17	33.0	35.0	36.3	..	..	..	..	..	2.5	3.7	6.2	4 49.45	0.06	17.66	5 5 7.05	11.68
	Lacaille 1770	18	16.7	18.8	20.2	31.0	32.2	33.5	34.9	36.1	47.0	48.4	50.8	9 33.60	0.03	17.67	5 9 51.24	11.33
	O. Arg. S. 3830	19	..	..	..	47.5	48.8	50.9	8.2	10.8	12.3	13.8	15.1	12 3.42	29.34	17.67	5 11 51.75	11.46
	O. Arg. S. 3866	20	..	..	..	40.4	41.5	42.7	44.1	45.2	56.2	57.4	59.8	13 48.41	— 5.61	17.67	5 14 0.48	11.46
β	Tauri	21	9.6	11.7	13.3	24.0	25.2	26.5	27.9	29.0	40.0	41.3	43.6	17 26.55	+ 0.03	17.67	5 17 44.25	17.66
	Uranus I	22	40.9	42.5	43.7	44.9	47.6	..	52.8	55.3	56.7	58.0	59.6	22 20.20	— 0.23	17.68	5 22 37.65	..
	Uranus II	23	4.0	6.1	7.6	17.9	18.9	20.2	21.5	22.7	33.1	34.5	36.7	22 20.29	+ 0.03	17.68	5 22 38.00	..
	Lacaille 1916	24	49.5	51.5	52.9	4.0	5.2	6.6	8.1	9.4	20.5	21.9	24.4	32 6.73	— 0.03	17.68	5 32 24.38	11.07
	* — 25° 33′	25	59.0	1.0	2.5	13.0	14.0	15.5	16.8	17.9	28.6	29.9	32.2	35 15.49	0.02	17.68	5 35 33.15	11.76
	O. Arg. S. 4263	26	16.7	18.9	20.3	31.0	32.1	33.5	34.7	36.0	46.9	48.4	50.6	38 33.55	0.02	17.68	5 38 51.21	11.53
	* + 25° 43′	27	..	..	..	34.8	36.3	38.5	..	58.0	59.3	0.7	2.1	41 49.96	— 28.17	17.69	5 41 39.48	17.41
α	Orionis	28	18.1	20.1	21.5	30.8	31.9	33.2	34.4	35.4	45.1	46.3	48.4	47 33.20	+ 0.01	17.69	5 47 50.90	15.27
	* — 29° 55′	29	..	..	..	5.2	6.3	7.6	8.9	10.1	21.6	22.6	24.9	50 13.40	— 5.75	17.69	5 50 25.34	11.29
	* — 29° 58′	30	..	..	..	..	..	..	44.1	47.0	48.6	50.0	51.5	50 48.24	38.87	17.69	5 50 27.06	11.29
δ	Ursæ Minoris, S. P.	31	..	..	..	31.0	51.0	8.0	47.5	9.0	42.5	..	..	17 31.50	2 2.65	17.71	.. .. ..	..
	B. A. C. 2127	32	51.0	53.2	54.5	5.1	6.3	7.7	9.0	10.1	21.2	22.6	24.9	24 7.78	0.02	17.71	6 24 25.47	11.98
	Lalande 12614	33	..	..	..	..	..	..	16.8	19.4	20.7	22.0	23.4	28 20.46	— 35.08	17.71	6 28 3.09	16.39
γ	Geminorum	34	20.5	22.6	23.9	33.7	34.7	35.9	37.3	38.3	48.5	49.7	51.8	29 36.08	+ 0.02	17.71	6 29 53.81	16.40
	Lacaille 2380	35	..	..	..	40.7	41.8	44.3	0.6	3.2	4.6	6.0	7.5	32 56.09	— 28.37	17.72	6 32 45.44	12.26
	O. Arg. S. 5450	36	25.1	27.3	28.4	38.9	40.0	41.3	42.6	43.7	54.3	55.5	57.8	33 41.35	0.02	17.72	6 33 59.05	12.25
α	Canis Majoris	37	38.2	40.2	41.5	51.3	52.4	53.7	55.0	56.1	6.0	7.3	9.5	38 53.75	0.01	17.72	6 39 11.46	12.86
	* — 32° 22′	38	..	..	..	9.0	10.2	11.7	13.2	14.4	25.9	27.1	29.6	44 17.64	5.90	17.72	6 44 29.46	11.29
κ	Canis Majoris	39	47.7	49.3	50.8	52.2	55.0	..	5.9	8.8	10.3	11.8	13.2	44 30.50	0.30	17.72	6 44 47.92	11.29
	Lacaille 2519	40	39.0	41.1	42.7	53.9	55.0	56.4	57.8	58.8	10.4	11.8	14.2	48 56.46	0.03	17.73	6 49 14.16	11.41
	Lacaille 2528	41	13.4	15.5	17.1	28.2	29.4	30.8	32.2	33.4	44.9	46.1	48.6	50 30.87	0.03	17.73	6 50 48.57	11.42
γ	Canis Majoris	42	5.4	7.4	8.6	18.7	19.7	21.0	22.2	23.3	33.1	34.4	36.5	57 20.94	0.01	17.73	6 57 38.66	13.22
	* — 31° 11′	43	50.1	51.9	53.4	54.6	57.4	..	7.6	10.4	11.9	13.3	14.8	2 32.54	0.28	17.73	7 2 49.99	11.56
	Lacaille 2637	44	25.8	28.1	29.6	40.7	42.0	43.3	44.7	45.9	57.2	58.5	1.1	2 43.35	0.01	17.73	7 3 1.07	11.56
	B. A. C. 2371	45	16.8	19.0	20.7	31.7	32.8	34.3	35.8	37.0	48.2	49.5	52.0	6 34.35	0.01	17.74	7 6 52.08	11.66
	* — 30° 25′	46	49.0	51.4	52.6	3.7	4.9	6.2	7.7	8.9	20.1	21.4	23.8	9 6.34	0.01	17.74	7 9 24.07	11.70
	B. A. C. 2399	47	32.7	35.0	36.2	47.5	48.6	50.0	51.3	52.5	3.8	5.1	7.5	9 50.02	0.01	17.74	7 10 7.75	11.70
	B. A. C. 2428	48	36.8	39.1	40.5	52.0	53.2	54.8	56.2	57.4	9.0	10.3	12.7	13 54.73	0.01	17.74	7 14 12.46	11.38
	O. Arg. S. 6734	49	28.2	30.5	31.7	42.6	43.6	45.0	46.4	47.5	58.5	59.7	2.0	17 45.06	0.01	17.74	7 18 2.79	12.08
	* — 30° 19′	50	..	..	..	58.6	0.1	2.5	20.0	22.9	24.2	25.8	27.3	20 15.18	— 30.15	+17.74	7 20 2.77	— 11.79

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
Jan. 27,	8.1	+ 17.77	+ 0.035	+ 0.007

6. Several very small stars in the field.

January 27, 7h. to 12h. n. $= +\overset{s.}{0.03}$.

January 27, 11h. 50m. Image east $\overset{r.}{0.03}$. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 27 R.	* — 20° 24′ . .	1	23.7	25.9	27.3	38.5	39.5	40.8	42.4	43.5	54.8	56.2	58.6	23 41.02	— 6.00	+17.75	7 23 58.77	— 12.84
	a^1 Geminorum . .	2	. .	. .	. .	. .	. .	. .	15.5	18.3	19.7	21.2	22.7	26 19.48	39.73	17.75	7 25 57.50	18.32
	a^2 Geminorum . .	3	. .	. .	. .	37.5	38.7	40.0	41.5	42.8	54.3	55.6	58.0	25 46.05	— 5.82	17.75	7 25 57.98	18.27
	α Canis Minoris . .	4	40.6	42.7	43.8	53.5	54.5	55.6	56.8	57.9	7.5	8.7	10.8	31 55.67	+ 0.01	17.75	7 32 3.43	15.07
	O. Arg. S. 7286 .	5	11.6	13.8	15.4	26.3	27.4	28.8	30.2	31.4	42.6	43.9	46.4	36 28.89	— 0.01	17.75	7 36 46.63	11.98
	O. Arg. S. 7376 .	6	13.1	15.3	16.6	27.3	28.4	29.8	31.1	32.3	43.2	44.5	46.9	39 29.86	0.01	17.75	7 39 47.60	12.26
	O. Arg. S. 7444 .	7	40.5	42.7	44.2	55.1	56.4	57.9	59.3	0.4	11.6	12.9	15.4	41 57.85	0.01	17.76	7 42 15.60	11.98
	O. Arg. S. 7440 .	8	42.2	44.4	45.8	57.1	58.2	59.6	1.0	2.2	13.3	14.8	17.0	42 59.60	0.01	17.76	7 43 17.35	— 11.98
	λ Ursæ Minoris, S. P.	9	. .	. .	. .	27.0	49.0	42.0	28.0	37.0	29.0	30.5	38.0	2 50.06	4 22.59	17.77	. . . .	+ 318.15
	Dorpat 1224 (1st *)	10	39.4	40.9	42.2	43.6	46.0	. .	52.4	55.0	56.4	57.8	59.3	18 19.30	— 0.24	17.78	8 18 36.84	— 17.01
	Dorpat 1224 (2d *)	11	2.8	5.0	6.4	16.9	18.0	19.3	20.6	21.8	32.3	33.7	36.0	18 19.35	+ 0.02	17.78	8 18 37.15	17.01
	Weisse (2) 458 . .	12	52.4	55.0	56.4	7.0	8.2	9.5	11.0	12.2	22.8	24.0	26.2	20 9.52	+ 0.02	17.78	8 20 27.32	17.05
	Dorpat 1245 (1st *)	13	45.7	47.0	48.2	49.3	51.8	. .	52.4	54.6	55.9	57.1	58.5	28 22.05	— 0.23	17.78	8 28 39.60	15.36
	Dorpat 1245 (2d *)	14	7.0	8.9	10.2	19.9	20.9	22.0	23.2	24.3	34.1	35.4	37.3	28 22.11	+ 0.01	17.78	8 28 39.90	15.36
	Lalande 16960 . .	†15	47.0	48.9	50.3	59.8	0.8	2.0	3.0	4.2	14.0	15.1	17.0	30 2.01	0.01	17.78	8 30 19.80	15.35
	ε Hydræ	16	4.0	6.0	7.3	16.7	17.7	19.0	20.2	21.2	31.0	32.1	34.3	39 19.05	+ 0.01	17.79	8 39 36.85	15.27
	B. A. C. 3005 . .	17	48.0	50.3	51.6	2.5	3.5	4.9	6.2	7.6	18.6	20.0	22.2	44 5.04	— 0.01	17.79	8 44 22.82	12.65
	17 Hydræ	18	19.2	21.3	22.5	32.0	33.0	34.4	35.5	36.5	46.2	47.5	49.6	48 34.34	0.00	17.79	8 48 52.13	14.24
	Weisse 1274 . .	19	17.4	19.4	20.6	30.0	31.0	32.3	33.5	34.5	44.4	45.6	47.5	49 32.38	0.00	17.79	8 49 50.17	14.24
	O. Arg. S. 9258 .	20	. .	. .	. .	44.1	45.3	47.4	4.5	7.1	8.4	9.9	11.2	55 59.74	28.68	17.80	8 55 48.86	13.06
	B. A. C. 3096 . .	21	39.7	42.0	43.1	54.0	55.0	56.2	57.5	58.8	9.5	10.7	12.8	56 56.30	— 0.01	17.80	8 57 14.09	13.07
	κ Cancri	22	52.0	54.1	55.2	5.0	6.1	7.3	8.7	9.7	19.5	20.7	22.7	0 7.36	+ 0.01	17.80	9 0 25.07	15.54
	e Mali	23	. .	. .	. .	53.0	54.1	55.4	56.9	58.1	9.2	10.6	13.0	4 1.29	— 5.71	17.80	9 4 13.38	12.78
	Lacaille 3725 . .	24	39.1	41.4	42.9	53.9	55.1	56.4	57.8	58.9	10.4	11.6	14.0	6 56.50	0.01	17.81	9 7 14.30	12.76
	Lacaille 3796 . .	25	5.4	7.5	9.0	20.0	21.0	22.3	23.7	24.9	36.2	37.6	40.1	15 22.52	— 0.01	17.81	9 15 40.32	12.86
	a Hydræ	26	23.8	25.8	26.9	36.7	37.7	38.9	40.0	41.1	51.0	52.0	54.0	20 38.90	0.00	17.81	9 20 56.71	14.25
	μ Leonis	27	29.2	31.6	33.0	43.7	44.8	46.0	47.5	48.6	59.3	0.7	3.1	44 46.14	+ 0.02	17.83	9 45 3.99	16.24
	Lacaille 4058 . .	28	25.9	28.4	29.6	40.5	41.5	42.9	44.1	45.4	56.3	57.5	59.9	47 42.91	— 0.01	17.83	9 48 0.73	13.35
	Lacaille 4076 . .	29	13.6	15.9	17.4	28.0	29.1	30.4	31.7	32.9	43.7	45.0	47.6	50 30.48	0.01	17.83	9 50 48.30	13.40
	Lacaille 4106 (1st *)	†30	47.8	49.2	50.7	51.9	54.8	. .	2.6	5.6	6.9	8.3	9.9	55 28.77	0.28	17.83	9 55 46.32	13.39
	Lacaille 4106 (2d *)	†31	12.7	14.6	16.0	26.7	28.0	29.5	31.2	32.2	42.6	44.1	46.3	55 29.45	— 0.01	17.83	9 55 47.27	13.39
	a Leonis	32	36.9	38.8	40.3	49.8	51.0	52.2	53.4	54.4	4.4	5.7	7.6	0 52.23	+ 0.01	17.84	10 1 10.08	15.20
	Lacaille 4183 . .	33	18.8	20.8	22.2	33.1	34.2	35.4	36.6	37.9	48.9	50.4	52.7	5 35.55	— 0.01	17.84	10 5 53.38	13.49
	Lacaille 4218 . .	34	20.4	22.7	23.8	34.7	35.7	37.3	38.6	39.6	50.7	52.0	54.4	9 37.26	— 0.01	17.84	10 9 55.09	13.53
	γ Leonis	35	57.0	59.0	0.2	10.4	11.5	12.7	14.0	15.1	25.4	26.5	28.7	12 12.77	+ 0.02	17.84	10 12 30.63	15.66
	45 Leonis	36	57.3	58.9	0.4	10.1	11.1	12.3	13.6	14.6	24.3	25.6	27.6	20 12.35	0.01	17.85	10 20 30.21	15.02
	ρ Leonis	37	8.1	10.2	11.4	20.9	22.0	23.1	24.3	25.6	35.3	36.7	38.6	25 23.29	+ 0.01	17.85	10 25 41.15	14.96
	Lacaille 4382 . .	38	10.8	12.7	14.2	24.5	25.6	27.2	28.5	29.5	40.2	41.5	43.8	32 27.14	— 0.01	17.86	10 32 44.99	13.83
	37 Sextantis	39	30.2	32.2	33.4	43.0	44.0	45.2	46.4	47.4	57.2	58.3	0.2	38 45.23	+ 0.01	17.86	10 39 3.10	14.77
	l Leonis	40	35.7	37.4	38.7	48.6	49.7	50.8	52.0	53.0	2.9	4.2	6.3	41 50.85	+ 0.01	17.86	10 42 8.72	14.88
	Lacaille 4505 . .	41	55.8	57.9	59.2	9.8	11.0	12.2	13.6	14.7	25.6	27.0	29.4	47 12.38	— 0.01	17.86	10 47 30.23	13.92
	ρ^1 Leonis	42	23.0	24.9	26.0	35.5	36.4	37.7	39.0	40.0	49.6	50.9	52.8	54 37.80	+ 0.01	17.87	10 54 55.68	14.46
	χ Leonis	43	29.3	31.3	32.6	42.3	43.2	44.3	45.5	46.5	56.2	57.4	59.6	57 44.38	0.01	17.87	11 57 2.26	14.37
	δ Leonis	44	20.5	22.6	23.9	34.2	35.4	36.5	37.9	38.9	49.4	50.6	52.7	6 36.60	0.02	17.87	11 6 54.49	14.95
	ϕ Leonis	45	14.3	16.1	17.7	26.7	28.0	29.1	30.3	31.5	40.9	42.1	44.5	9 29.20	0.01	17.88	11 9 47.09	14.40
	σ Leonis	46	36.6	38.7	39.9	49.1	50.2	51.8	52.8	54.0	3.6	4.8	6.9	13 51.67	0.01	17.88	11 14 9.56	14.52
	ι Leonis	47	19.0	21.0	22.4	31.9	32.9	34.1	35.5	36.4	46.2	47.5	49.6	16 34.23	0.01	17.88	11 16 52.12	14.60
	Moon II	48	56.7	58.8	0.0	9.8	10.7	12.3	13.4	14.4	24.1	25.4	27.2	39 12.07	0.01	17.89	11 39 29.97	. .
	β Virginis	49	6.0	7.8	9.1	18.4	19.5	20.7	21.9	23.0	32.6	33.9	35.7	43 20.78	+ 0.01	+17.90	11 43 38.69	— 14.30

15. Following of double.
30–31. Both stars very faint.

January 27, 17h. to 1h. n. = + s. 0.17.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	e.
	h. s.	s.	s.
Jan. 27, 8.1	+ 17.77	+ 0.035	+ 0.007

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s,	h. m. s.	s.
Jan. 27	*o* Virginis	1	45.9	47.6	48.8	58.4	59.4	0.7	1.8	3.0	12.8	14.1	16.0	58 0.77	+ 0.01	+17.90	11 58 18.68	— 14.14
R.	10 Virginis	2	12.4	14.2	15.3	25.1	26.0	27.0	28.3	29.4	39.0	40.6	42.3	2 27.24	+ 0.01	17.90	12 2 45.15	14.19
Y.	Venus II . . .	3	24.0	26.0	27.4	37.7	38.7	40.0	41.4	42.4	52.9	54.1	56.3	44 40.08	— 0.06	17.98	17 44 58.00	— 0.58
	δ Ursæ Minoris . .	4	14.0	47.0	8.5	47.0	4.5	25.0	45.0	3.0	45.0	5.0	39.0	15 25.73	+ 2.98	18.01	. . . .	+ 103.43
	a Lyræ	5	41.9	44.6	46.2	58.2	59.5	1.2	2.6	3.9	16.3	17.7	20.4	32 1.14	0.15	18.02	18 32 19.31	— 7.44
	a Aquilæ	6	35.4	37.4	38.6	48.2	49.3	50.3	51.6	52.7	2.5	3.5	5.7	43 50.47	+ 0.03	18.09	19 44 8.59	11.54
28	Sun I	7	26.3	28.4	29.6	39.6	40.7	42.0	43.2	44.3	54.5	55.7	57.7	40 42.00	— 0.05	18.15	20 41 0.10	. .
	Sun II	8	43.4	45.7	46.9	57.0	58.1	59.3	0.5	1.6	11.8	13.2	15.3	42 59.35	0.05	18.15	20 43 17.45	. .
	a Piscis Australis .	9	32.2	34.4	35.8	46.7	48.0	49.4	50.8	52.0	3.0	4.4	6.9	49 49.42	— 0.09	18.27	22 50 7.60	13.17
	a Pegasi	10	25.7	27.8	29.0	38.9	40.0	41.2	42.4	43.6	53.4	54.7	56.7	57 41.22	+ 0.05	18.28	22 57 59.55	12.11
	a Andromedæ . . .	11	47.0	49.2	50.6	1.4	2.5	3.8	5.2	6.4	17.4	18.7	21.0	1 3.93	0.10	18.34	0 1 22.37	12.84
	Polaris	12	34.0	29.5	18.5	6.5	43.5	. .	. .	. .	. .	. .	. .	46 26.40	22 37.82	18.39	. . . .	80.29
	ε Tauri	13	8.3	10.4	11.8	21.8	22.8	24.2	25.4	26.6	36.7	38.0	40.1	20 24.19	0.03	18.59	4 20 42.81	16.05
	Lacaille 1480 . .	14	45.0	47.2	48.6	59.5	0.7	2.0	3.4	4.7	15.6	17.0	19.4	24 2.10	0.04	18.60	4 24 20.66	11.13
	Hebe	15	14.9	16.8	18.0	27.6	28.6	29.9	31.0	32.0	42.7	43.0	45.0	27 29.95	+ 0.02	18.60	4 27 48.57	14.71
	* + 5° 53′ . .	16	. .	. .	. .	. .	. .	. .	37.1	39.7	40.8	42.0	43.3	28 40.58	— 33.80	18.60	4 28 25.38	14.72
	* + 5° 52′ . . .	†17	. .	. .	. .	12.8	14.0	16.0	31.4	33.6	34.8	36.1	37.5	29 27.02	26.13	18.60	4 29 19.49	14.72
	Weisse (2) 719 . .	18	. .	. .	. .	. .	. .	. .	49.8	52.4	53.8	55.1	56.6	33 53.54	36.35	18.61	4 33 35.80	16.53
	B. A. C. 1471 . .	19	13.3	15.5	16.9	27.7	28.9	30.2	31.5	32.7	43.5	44.9	47.2	38 30.21	0.03	18.61	4 38 48.79	11.32
	B. A. C. 1482 . .	20	26.1	28.5	29.7	40.5	41.8	43.1	44.4	45.5	56.5	57.9	0.2	40 43.11	0.04	18.61	4 41 1.68	11.27
	* + 22° 33′ . .	21	48.0	50.2	51.5	1.8	2.9	4.1	5.3	6.5	17.0	18.2	20.5	45 4.18	0.04	18.62	4 45 22.84	16.65
	Weisse (2) 1012 .	22	. .	. .	. .	37.9	39.2	41.3	57.9	0.4	1.8	3.1	4.5	45 53.26	28.13	18.62	4 45 43.75	16.65
	O. Arg. S. 3494 .	23	44.9	47.2	48.6	59.5	0.6	1.9	3.2	4.5	15.7	16.9	19.2	49 2.02	0.04	18.62	4 49 20.60	11.19
	O. Arg. S. 3513 .	24	. .	. .	. .	. .	. .	. .	41.0	43.8	45.2	46.4	48.0	50 44.88	38.11	18.62	4 50 25.39	11.33
	* — 29° 6′ . . .	25	38.0	40.2	41.6	52.7	53.8	55.0	56.4	57.7	8.6	10.0	12.4	52 55.13	0.04	18.62	4 53 13.71	11.20
	O. Arg. S. 3576 .	26	. .	. .	. .	35.0	36.4	38.8	56.2	59.1	0.6	1.9	3.5	54 51.44	30.01	18.62	4 54 40.05	11.12
	Lacaille 1693 . .	27	. .	. .	. .	37.4	38.5	39.8	41.1	42.4	53.7	55.1	57.4	56 45.68	5.85	18.63	4 56 58.46	10.90
	O. Arg. S. 3630 .	28	. .	. .	. .	11.3	12.4	13.7	15.0	16.2	27.2	28.5	30.9	58 19.40	5.63	18.63	4 58 32.40	11.36
	O. Arg. S. 3720 .	29	20.5	22.6	23.9	34.5	35.6	36.9	38.2	39.5	50.1	51.4	53.6	3 36.98	0.02	18.64	5 3 55.60	11.64
	B. A. C. 1615 . .	30	41.5	43.8	45.1	56.3	57.3	58.8	0.0	1.3	12.6	13.9	16 2	5 58.80	0.02	18.64	5 6 17.42	11.06
	Lacaille 1774 . .	31	30.8	33.0	34.3	45.3	46.4	47.8	49.1	50.4	1.7	2.9	5.3	9 47.91	0.02	18.64	5 10 6.53	11.14
	O. Arg. S. 3862 .	32	53.0	55.2	56.6	7.5	8.6	9.9	11.3	12.5	23.6	24.8	27.2	13 10.02	0.02	18.64	5 13 28.64	11.26
	O. Arg. S. 3884 .	33	. .	. .	. .	23.6	24.9	27.3	44.7	47.5	48.8	50.3	51.8	15 39.86	29.86	18.65	5 15 28.65	11.22
	Lacaille 1827 . .	34	. .	. .	. .	. .	. .	. .	25.3	28.1	29.6	31.2	32.7	18 29.38	— 39.63	18.65	5 18 8.40	10.91
	Uranus I . . .	35	56.1	58.2	59.7	9.7	10.9	12.3	13.6	14.7	25.2	26.5	28.6	22 12.32	+ 0.03	18.65	5 22 31.00	. .
	Uranus II . . .	†36	33.5	35.0	36.2	37.7	40.1	. .	45.5	48.2	49.5	50.8	52.4	22 12.89	— 0.23	18.65	5 22 31.31	. .
	a Leporis	37	11.7	13.6	14.9	24.9	26.0	27.3	28.6	29.7	39.7	40.9	43.1	26 27.31	— 0.01	18.66	5 26 45.96	12.57
	ε Orionis	38	47.3	49.4	50.5	0.0	1.0	2.2	3.3	4.5	14.0	15.2	17.3	29 2.25	+ 0.01	18.66	5 29 20.92	14.29
	a Columbæ . . .	39	8.8	11.4	12.6	24.3	25.3	26.8	28.1	29.5	41.1	42.5	45.0	34 26.85	— 0.03	18.67	5 34 45.49	10.66
	O. Arg. S. 4237 .	40	23.8	26.1	27.5	38.3	39.3	40.7	42.0	43.2	54.1	55.5	57.6	36 40.74	0.02	18.67	5 36 59.39	11.49
	Lacaille 1977 . .	41	33.2	35.5	36.7	48.0	49.2	50.7	51.9	53.1	4.5	5.8	8.3	39 50.63	0.02	18.67	5 40 9.28	11.01
	Lacaille 1990 . .	42	12.0	14.3	15.7	26.5	27.7	29.1	30.5	31.6	42.8	44.0	46.3	41 29.14	0.02	18.67	5 41 47.79	11.40
	O. Arg. S. 4355 .	43	34.9	37.1	38.5	49.0	50.2	51.6	52.8	54.0	4.8	6.0	8.3	43 51.56	0.02	18.67	5 44 10.21	11.68
	Lacaille 2033 . .	44	10.4	12.7	14.2	25.1	26.2	27.6	28.8	30.1	41.2	42.6	45.0	46 27.63	0.02	18.67	5 46 46.28	11.32
	O. Arg. S. 4453 .	45	43.5	45.8	47.1	58.1	59.3	0.7	2.0	3.1	14.2	15.4	17.8	50 0.64	0.02	18.68	5 50 19.30	11.40
	O. Arg. S. 4481 .	46	22.0	24.3	25.8	36.5	37.8	39.0	40.4	41.6	52.7	53.9	56.4	51 39.13	0.02	18.68	5 51 57.79	11.42
	O. Arg. S. 4527 .	47	. .	. .	. .	43.5	44.9	47.3	4.5	7.3	8.6	10.1	11.6	54 59.72	29.82	18.68	5 54 48.58	11.39
	* — 28° 36′ . .	48	. .	46.5	47.9	58.9	59.9	1.4	2.5	3.7	14.8	16.1	. .	59 1.30	0.01	18.69	5 59 19.98	11.48
	* — 28° 36′ . .	49	22.9	24.5	25.8	27.2	29.9	. .	38.3	40.9	42.4	43.8	45.3	59 4.10	0.29	18.69	5 59 22.50	— 11.48
	δ Ursæ Minoris, S. P.	50	40.5	8.0	46.5	7.0	50.0	29.5	10.0	52.5	9.0	48.5	15.0	15 28.77	— 0.62	+18.70	. . . .	+ 103.33

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
h.	s.	s.	s.
Jan. 28, 4.1	+ 18.58	+ 0.058	+ 0.007

17. Another small star to the southward of this.
36. First limb the better observation.

	s.
January 28, 17h. to 1h. n. =	+ 0.17.
4h. to 5h.	0.08.
5h. to 6h.	0.05.
6h. to 7h.	+ 0.03.
7h. to 9h.	— 0.04.
12h. to 14h.	— 0.03.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 28	* — 29° 56′	1	49.1	51.4	52.8	3.9	5.0	6.3	7.6	8.9	20.1	21.5	23.8	25 6.40	— 0.01	+18.71	6 25 25.10	— 11.46
Y.	O. Arg. S. 5289	2	37.7	40.0	41.1	51.8	53.0	54.3	55.7	56.9	7.4	8.7	11.0	27 54.33	0.01	18.72	6 28 13.04	11.91
	Lacaille 2355	3	16.8	18.9	20.4	31.3	32.5	33.7	35.1	36.4	47.1	48.8	51.0	30 33.85	0.01	18.72	6 30 52.56	11.64
	* — 27° 38′	4	51.9	54.3	55.7	6.3	7.5	8.7	10.0	11.2	22.1	23.5	25.9	33 8.83	0.01	18.72	6 33 27.54	11.78
	51 Cephei	5	- -	- -	- -	- -	- -	57.0	20.0	41.0	- -	- -	- -	36 19.33	21.88	18.73	6 36 16.18	156.68
	O. Arg. S. 5654	6	4.6	6.8	8.1	19.0	20.0	21.6	22.8	23.9	35.0	36.2	38.5	40 21.50	0.01	18.73	6 40 40.22	11.70
	O. Arg. S. 5745	7	32.1	34.4	35.9	46.7	47.9	49.2	50.6	51.8	2.8	4.0	6.3	43 49.25	0.01	18.73	6 44 7.97	11.79
	* — 30° 15′	8	21.8	24.1	25.6	36.5	37.7	38.9	40.5	41.6	53.0	54.3	56.8	46 39.17	0.01	18.74	6 46 57.90	11.56
	Lacaille 2519	9	37.9	40.2	41.6	52.8	54.0	55.3	56.7	57.9	9.4	11.6	13.2	48 55.49	0.01	18.74	6 49 14.22	11.41
	Lacaille 2528	10	12.3	14.5	16.1	27.2	28.3	29.8	31.1	32.5	43.7	45.0	47.5	50 29.82	0.01	18.74	6 50 48.55	11.42
	O. Arg. S. 5961	11	- -	- -	- -	- -	- -	- -	34.0	36.8	38.2	39.6	41.0	52 37.92	37.88	18.74	6 52 18.78	11.93
	Lacaille 2566	12	23.8	26.0	27.5	38.5	39.7	41.2	42.5	43.7	55.0	56.4	58.8	54 41.19	0.01	18.74	6 54 59.92	11.53
	* — 30° 52′	13	- -	- -	- -	- -	- -	- -	20.7	23.6	25.0	26.5	28.0	55 24.76	39.21	18.74	6 55 4.29	11.54
γ	Canis Majoris	14	- -	- -	- -	32.2	33.3	35.5	51.2	53.8	55.0	56.4	57.7	57 46.89	— 26.99	18.75	6 57 8.65	13.22
	* — 30° 36′	15	23.8	26.1	27.5	38.5	39.5	41.0	42.3	43.5	54.5	56.0	58.3	12 41.00	+ 0.03	18.76	7 12 59.79	11.55
	O. Arg. S. 6734	16	27.2	29.4	30.7	41.5	42.6	44.0	45.4	46.5	57.5	58.7	0.9	17 44.04	0.03	18.76	7 18 2.83	12.08
	Lacaille 2813	17	56.0	58.3	59.6	10.3	11.3	12.7	13.9	15.1	26.0	27.4	29.5	22 12.74	+ 0.03	18.77	7 22 31.54	12.22
	* — 30° 27′	18	- -	- -	- -	37.2	38.5	39.8	41.1	42.4	53.8	55.0	57.2	23 45.62	— 5.72	18.77	7 23 58.67	11.80
	* — 29° 5′	19	50.0	52.4	53.6	4.6	5.6	7.1	8.6	9.7	20.7	22.0	24.4	29 7.15	+ 0.03	18.78	7 29 25.96	12.00
α	Canis Minoris	†20	39.5	41.5	42.7	52.3	53.3	54.4	55.6	56.7	6.5	7.6	9.6	31 54.52	0.00	18.78	7 32 13.30	15.07
	B. A. C. 2526	21	22.0	24.0	25.3	34.9	36.0	37.0	38.2	39.3	48.9	50.3	52.2	32 37.10	0.00	18.78	7 32 55.88	15.27
	O. Arg. S. 7224	22	- -	- -	- -	- -	- -	- -	0.6	3.6	4.9	6.5	7.9	35 4.70	— 38.76	18.78	7 34 44.72	11.96
	O. Arg. S. 7286	23	10.6	12.9	14.2	25.3	26.5	27.9	29.3	30.3	41.5	42.9	45.1	36 27.86	+ 0.03	18.78	7 36 46.67	11.98
	O. Arg. S. 7386	24	11.9	14.2	15.6	26.4	27.4	28.7	30.0	31.2	42.1	43.4	45.8	39 28.79	0.03	18.78	7 39 47.60	12.26
	O. Arg. S. 7465	25	26.8	29.1	30.5	41.0	42.2	43.5	44.8	46.0	56.9	58.2	0.5	42 43.59	0.03	18.79	7 43 2.41	12.35
	O. Arg. S. 7636	26	19.7	21.9	23.2	34.1	35.3	36.5	37.9	39.0	49.9	51.2	53.4	48 36.55	0.03	18.80	7 48 55.38	12.29
	* — 32° 44′	27	23.0	25.5	27.0	38.3	39.5	40.9	42.4	43.5	55.2	56.5	58.9	51 40.97	+ 0.03	18.80	7 51 59.80	11.81
6	Cancri	28	36.7	39.1	40.4	51.1	52.3	53.8	55.0	56.3	7.2	8.5	10.7	54 53.75	— 0.01	18.80	7 55 12.54	— 17.59
λ	Ursæ Minoris, S. P.	29	22.0	30.0	27.0	22.0	- -	- -	- -	- -	- -	- -	- -	58 55.25	— 29.86	18.81	7 58 44.20	+ 188.03
	Lacaille 5271	30	27.3	29.3	30.8	41.4	42.5	43.9	45.4	46.5	57.3	58.8	1.0	37 44.02	+ 0.02	19.07	12 38 3.11	14.86
	Lacaille 5284	31	- -	- -	- -	- -	- -	- -	16.7	19.8	21.2	22.6	24.3	41 20.92	— 39.44	19.08	12 41 0.56	15.02
	Lacaille 5301	32	50.2	52.5	54.0	5.1	6.3	7.6	8.8	10.0	21.3	22.4	25.1	44 7.57	+ 0.03	19.08	12 44 26.68	15.00
	Lacaille 5302	33	- -	- -	- -	- -	- -	- -	48.0	50.9	52.4	53.8	55.5	44 52.12	— 38.99	19.08	12 44 32.21	15.01
	B. A. C. 4345	34	34.6	36.3	37.9	39.4	42.2	- -	59.8	2.9	4.3	6.2	7.9	49 21.15	0.33	19.09	12 49 39.91	12.85
α	Canum Venaticorum	35	52.9	55.4	57.2	19.5	20.0	22.1	23.7	25.0	37.4	38.8	41.5	49 22.19	— 0.02	19.09	12 49 41.26	12.77
	Polaris, S. P.	36	11.0	50.0	0.0	32.0	52.0	6.0	19.0	34.0	2.0	8.0	51.0	9 2.27	+ 0.94	19.11	- - - -	79.88
ζ	Virginus	37	13.3	15.4	16.5	26.3	27.1	28.2	29.5	30.4	40.2	41.2	43.5	27 28.33	+ 0.01	19.12	13 27 47.46	13.72
	Venus	38	- -	- -	- -	42.7	43.9	45.1	46.5	47.6	58.0	59.3	1.4	49 50.56	— 5.41	18.99	17 50 4.14	0.58
R. α	Lyræ	39	41.0	43.5	45.2	57.3	58.5	0.1	1.5	2.9	15.2	16.8	19.5	32 0.14	+ 0.15	19.01	18 32 19.30	7.46
α	Aquilæ	40	34.4	36.6	37.7	47.6	48.5	49.5	50.7	51.8	1.5	2.8	4.8	43 49.63	+ 0.03	19.03	19 44 8.69	11.55
29	Sun I	41	33.0	34.9	36.3	46.3	47.5	48.8	50.0	51.1	1.3	2.5	4.7	44 48.76	— 0.06	19.05	20 45 7.75	- -
	Sun II	42	50.3	52.3	53.8	3.8	4.9	6.0	7.3	8.5	18.8	19.9	21.9	47 6.14	— 0.06	19.05	20 47 25.13	- -
β	Cephei	43	47.8	53.3	56.7	24.7	27.6	31.4	34.8	37.7	5.9	9.3	15.6	26 31.35	+ 0.51	19.06	21 26 50.92	0.58
α	Andromedæ	44	46.1	48.3	49.7	0.3	1.5	2.9	4.4	5.6	16.5	17.8	20.2	1 3.03	0.11	19.11	0 1 22.25	12.83
Y.	Polaris	45	49.0	7.5	59.0	22.5	4.0	54.0	41.5	23.0	- -	- -	- -	5 32.56	3 30.04	19.13	- - - -	79.47
R.	Vesta	46	48.0	50.0	51.2	1.2	2.1	3.3	4.5	5.6	15.6	16.7	18.6	10 3.35	+ 0.03	19.16	3 10 22.54	- -
	Weisse (2) 255	47	- -	- -	- -	7.1	8.2	9.3	10.4	11.6	21.6	22.8	25.0	12 14.50	— 5.10	19.16	3 12 28.56	14.98
	O. Arg. S. 2237	48	30.4	32.6	33.8	43.8	44.8	46.1	47.4	48.6	58.5	59.7	1.8	16 46.14	— 0.02	19.16	3 17 5.28	12.25
	Melpomene	49	59.7	1.7	2.8	12.5	13.4	14.6	15.7	16.8	26.5	27.7	29.8	23 14.65	+ 0.02	19.17	3 23 33.84	14.28
	B. A. C. 1119	50	11.4	13.5	14.8	24.6	25.6	26.9	28.1	29.3	39.3	40.5	42.6	31 26.96	+ 0.04	+19.17	3 31 46.17	— 15.26

20. Unsteady.

January 29, 17h. to 1h. n. = + 0.18 s.
29, 3h. to 6h. + 0.10.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 29, 0.8	+ 19.12	+ 0.018	+ 0.007

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 29	* — 28° 23′ . .	1	. .	. .	. .	50.8	51.9	53.4	54.7	55.7	. .	. .	. .	34 53.30	0.00	+19.17	3 35 12.47	— 11.23
R.	η Tauri	2	. .	. .	. .	4.6	5.6	7.0	8.3	9.4	20.0	21.3	23.5	39 12.46	— 5.36	19.17	3 39 26.27	16.11
	27 Tauri	3	8.3	9.7	11.2	12.3	15.0	. .	20.5	23.2	24.4	25.9	27.3	40 47.78	— 0.21	19.17	3 41 6.74	16.13
	28 Tauri	4	32.4	34.6	35.9	46.3	47.4	48.6	50.0	51.2	1.7	3.0	5.2	40 48.75	+ 0.05	19.17	3 41 7.97	16.14
	B. A. C. 1195 . .	5	13.8	16.0	17.1	27.8	28.8	30.2	31.4	32.6	43.2	44.4	46.6	42 30.17	+ 0.05	19.17	3 42 49.39	16.13
	O. Arg. S. 2623 .	6	30.7	32.7	34.0	44.5	45.6	46.8	48.2	49.3	59.8	1.1	3.2	47 46.90	— 0.04	19.17	3 48 6.03	11.74
	Uranus I . . .	7	26.3	27.7	29.0	30.2	32.8	. .	38.4	40.7	42.3	43.5	45.0	22 5.59	— 0.22	19.20	5 22 24.57	. .
	Uranus II . . .	8	49.5	51.7	52.9	3.3	4.4	5.6	6.8	8.0	18.6	19.8	22.0	22 5.69	+ 0.02	19.20	5 22 24.91	. .
	α Leporis	9	11.2	13.2	14.4	24.4	25.4	26.6	28.0	29.0	39.2	40.4	42.5	26 26.75	— 0.02	19.20	5 26 45.93	12.56
	ε Orionis	†10	46.7	48.7	50.0	59.6	0.5	1.5	2.6	3.8	13.6	14.7	16.8	29 1.68	0.00	19.21	5 29 20.89	14.28
Feb. 3	ε Eridani	11	55.6	57.6	58.8	8.5	9.6	10.8	12.0	13.0	22.8	23.9	25.9	26 10.77	0.00	21.99	3 26 32.76	12.60
	Lacaille 1160 . .	12	. .	. .	. .	18.5	19.7	21.2	22.6	23.7	35.3	36.5	39.0	32 27.06	— 5.84	21.98	3 32 43.20	10.76
	Weisse (2) 878 . .	13	15.9	18.0	19.2	29.1	30.3	31.5	32.8	33.9	44.0	45.2	47.3	39 31.56	+ 0.01	21.98	3 39 53.55	15.29
	O. Arg. S. 2571 .	14	16.0	18.1	19.6	30.3	31.4	32.8	34.0	35.4	46.3	47.5	49.9	43 32.85	0.00	21.98	3 43 54.83	11.22
	O. Arg. S. 2623 .	15	27.6	29.9	31.0	41.3	42.5	43.9	45.2	46.4	56.8	58.2	0.3	47 43.92	0.00	21.98	3 48 5.90	11.65
	B. A. C. 1229 . .	16	. .	. .	. .	59.2	0.6	2.7	18.4	20.8	21.9	23.4	24.8	50 13.98	— 26.82	21.98	3 50 9.14	12.58
	γ Eridani	17	5.3	7.1	8.6	18.3	19.4	20.6	21.8	22.8	32.8	34.0	36.1	51 20.62	0.00	21.98	3 51 42.60	12.62
	O. Arg. S. 2761 .	18	29.0	31.2	32.5	43.3	44.5	45.8	47.1	48.2	59.3	0.6	2.8	56 45.85	0.00	21.97	3 57 7.82	11.18
	O. Arg. S. 2796 .	19	12.5	14.8	16.0	25.9	27.0	28.3	29.6	30.7	41.0	42.4	44.6	59 28.44	0.00	21.97	3 59 50.41	11.94
	37 Eridani	20	. .	. .	. .	. .	. .	. .	54.5	57.0	58.2	59.6	0.9	3 58.04	— 33.93	21.97	4 3 46.08	13.26
	o^1 Eridani	21	38.3	40.1	41.3	50.9	52.0	53.2	54.4	55.5	5.2	6.5	8.5	4 53.26	0.00	21.97	4 5 15.23	13.28
	Uranus	22	17.1	19.2	20.7	31.2	32.2	33.5	34.8	35.8	46.3	47.6	50.0	21 33.49	+ 0.01	21.94	5 21 55.44	. .
	δ Orionis	23	28.9	30.7	32.0	41.3	42.3	43.5	44.6	45.9	. .	. .	. .	24 38.65	+ 4.99	21.94	5 25 5.58	14.30
	Weisse 603 . . .	24	. .	. .	. .	55.4	56.8	58.7	13.8	16.1	17.5	18.8	20.0	25 9.64	— 26.02	21.94	5 25 5.56	14.30
	ε Orionis	25	. .	. .	. .	56.7	57.8	58.9	0.0	1.1	10.8	11.9	14.0	29 3.90	4.96	21.94	5 29 20.88	14.23
	* — 1° 20′ . . .	26	. .	. .	. .	29.6	30.9	32.9	48.2	50.4	51.7	53.0	54.3	29 43.88	26.03	21.94	5 29 39.79	14.22
	Weisse 776 . . .	27	44.9	46.7	48.0	57.7	58.7	59.8	1.0	2.0	11.7	12.9	14.8	30 59.84	0.00	21.94	5 31 21.78	14.24
	Lacaille 1990 .	28	9.0	. .	12.5	23.4	24.5	25.9	27.2	28.4	39.4	. .	43.0	41 25.92	0.01	21.93	5 41 47.84	11.31
	O. Arg. S. 4395 .	29	59.7	1.7	3.2	. .	. .	. .	. .	. .	29.4	30.6	32.9	46 16.25	0.04	21.93	5 46 38.14	11.66
	O. Arg. S. 4453 .	30	40.2	42.5	44.0	54.9	55.9	57.3	58.8	59.8	11.1	12.3	14.7	49 57.41	0.01	21.93	5 50 19.33	11.33
	O. Arg. S. 4499 .	31	21.0	23.3	24.6	35.6	36.7	37.9	39.4	40.7	51.7	53.0	55.3	52 38.11	0.01	21.93	5 53 0.03	11.31
	O. Arg. S. 4527 .	32	9.6	11.7	13.0	24.0	25.2	26.5	28.1	29.1	40.3	41.6	43.7	54 26.61	— 0.01	21.93	5 54 48.53	11.31
	ν Orionis	33	13.4	15.3	16.6	26.6	27.6	28.8	30.2	32.3	41.0	42.1	44.5	59 28.95	+ 0.01	21.93	5 59 50.89	— 16.07
	δ Ursæ Minoris, S. P.	†34	. .	. .	. .	4.0	48.0	28.0	. .	49.5	8.0	46.5	12.5	13 53.79	+ 1 32.40	21.92	. . . .	+ 102.10
	O. Arg. S. 5251 .	35	2.6	4.7	6.3	17.1	18.1	19.5	20.9	22.1	33.2	34.5	36.8	26 19.62	— 0.01	21.92	6 26 41.53	— 11.18
	Lalande 12614 . .	36	. .	. .	. .	. .	. .	. .	12.5	15.0	16.3	17.7	19.0	28 16.10	— 35.09	21.92	6 28 2.93	16.36
	γ Geminorum . .	37	16.1	18.2	19.6	29.5	30.6	31.7	33.0	34.1	44.4	45.5	47.6	29 31.85	+ 0.01	21.92	6 29 53.78	16.37
	* — 30° 20′ . .	38	53.0	55.2	56.7	7.8	9.0	10.4	11.8	13.0	24.2	25.5	27.9	34 10.41	— 0.01	21.91	6 34 32.31	11.41
	* — 31° 31′ . .	39	34.1	36.5	37.8	49.1	50.1	51.6	53.0	54.4	5.6	6.8	9.2	36 51.65	0.01	21.91	6 37 13.55	11.28
	O. Arg. S. 5615 .	40	. .	. .	. .	19.9	21.4	23.6	40.7	43.1	44.7	46.1	47.6	39 35.89	29.25	21.91	6 39 28.55	11.81
	Lacaille 2473 . .	41	28.3	30.4	31.9	42.5	43.6	44.8	46.1	47.2	58.2	59.4	1.6	44 44.91	0.00	21.91	6 45 6.82	12.03
Y.	Moon II . . .	42	53.8	56.0	57.3	7.8	8.9	10.2	11.6	12.7	23.4	24.6	26.9	3 10.29	— 0.07	22.59	18 3 32.81	. .
	α Lyræ	43	37.5	40.1	41.7	53.8	55.0	56.7	58.0	59.6	11.8	13.4	16.0	31 56.69	+ 0.17	22.62	18 32 19.48	7.60
4	α Piscis Australis .	†44	27.7	29.9	31.1	42.2	43.3	44.6	46.1	47.4	58.7	59.8	2.2	49 44.82	— 0.11	22.87	22 50 7.58	13.15
	α Pegasi	45	21.0	23.0	24.4	34.1	35.2	36.5	37.6	38.7	48.7	50.0	52.1	57 36.48	+ 0.05	22.89	22 57 59.42	12.08
	α Andromedæ . .	46	42.1	44.5	45.9	56.6	57.8	59.1	0.5	1.7	12.6	14.0	16.3	0 59.19	0.11	22.94	0 1 22.24	22.77
	Polaris	†47	37.5	58.5	48.5	13.5	53.0	42.5	31.0	14.5	47.5	34.5	57.0	8 49.76	— 12.93	23.01	. . . .	75.10
	o^1 Eridani	48	37.0	39.0	40.3	49.9	50.9	52.0	53.4	54.3	4.0	5.1	7.3	4 52.11	0.01	23.18	4 5 15.28	13.26
	O. Arg. S. 2922 .	49	0.4	2.7	4.1	15.2	16.3	17.7	18.1	20.3	31.6	32.9	35.1	8 17.67	0.05	23.19	4 8 40.81	10.86
	O. Arg. S. 2930 .	50	3.2	5.4	6.9	18.0	19.2	20.5	21.9	23.1	34.3	35.7	38.0	9 20.56	— 0.05	+23.19	4 9 43.70	— 10.87

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
Feb.	3, 5.0	+ 21.95	— 0.023	+ 0.005
	4, 2.5	+ 23.09	+ 0.059	+ 0.005

10. Night cloudy.
34. Very much blurred.
44. Faint.
47. Steady.

s.
February 3, 3h. to 7h. n. = + 0.02.
3–4, 18h. to 2h. 0.20.
4, 4h. to 7h. + 0.10.
4, 18h. to 4h. 0.00.

February 4. Night cloudy, stars steady, wind south.

r.
February 4, 7h. Image east 0.06. Clamp east.
Image west 0.07. Clamp west.
Image east 0.06. Clamp east.

At 7h. 30m. slightly changed the Azimuth error.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 4	* — 30° 25′ . .	1	56.3	58.7	0.2	. .	. .	. .	. .	. .	27.7	28.8	31.0	11 13.78	— 0.09	+23.19	4 11 36.88	— 10.87
	Weisse 620 . . .	†2	27.9	30.0	31.4	41.8	43.0	44.2	45.6	46.8	57.5	58.6	1.0	28 44.35	+ 0.05	23.21	4 29 7.61	16.76
	B. A. C. 1451 . .	3	. .	. .	. .	. .	. .	. .	40.1	42.6	43.9	45.4	46.7	34 43.74	— 35.82	23.21	4 34 31.13	12.09
	μ Eridani	4	5.7	7.8	9.0	18.5	19.5	20.7	21.9	22.9	32.6	33.9	35.8	38 20.75	0.00	23.22	4 38 43.97	13.79
	B. A. C. 1496 . .	5	55.4	2.4	6.9	41.4	44.9	49.5	53.9	57.5	33.4	37.0	44.5	44 49.71	+ 0.37	23.22	4 45 13.30	35.69
	B. A. C. 1510 . .	6	. .	. .	. .	7.4	10.8	15.4	19.9	23.8	. .	. .	. .	47 15.46	0.53	23.23	4 47 39.22	35.52
	B. A. C. 1565 . .	7	38.5	48.7	55.4	45.4	50.7	56.7	3.4	9.0	59.8	5.6	16.7	59 57.26	0.54	23.24	5 0 21.04	47.10
	Weisse (2) 111 . .	8	54.7	57.0	58.5	9.5	10.5	11.8	13.3	14.6	25.7	27.0	29.5	5 12.01	0.06	23.24	5 5 35.31	17.74
	β Tauri	9	3.9	5.3	7.6	18.4	19.5	20.9	22.3	23.5	34.5	35.7	38.1	17 20.88	0.06	23.26	6 17 44.20	17.58
	Uranus	10	10.6	12.8	14.0	24.5	25.5	26.8	28.1	29.3	39.7	41.0	43.3	21 26.87	+ 0.05	23.26	5 21 50.18	. .
	α Leporis	11	6.8	9.0	10.2	20.3	21.4	22.6	23.8	24.8	35.0	36.3	38.5	26 22.61	— 0.03	23.26	5 26 45.84	12.49
	δ Ursæ Minoris, S. P.	12	37.7	5.5	45.0	3.7	47.6	27.2	7.0	49.0	7.5	46.0	12.3	15 26.23	— 1.77	23.31	. . . .	. .
	γ Geminorum . . .	13	14.9	17.0	18.2	28.2	29.2	30.4	31.6	32.8	42.8	44.0	46.0	29 30.46	+ 0.03	23.33	6 29 53.82	16.36
	* — 30° 20′ . .	14	. .	. .	. .	6.4	7.5	8.9	10.2	12.5	22.7	24.0	26.4	34 14.82	— 5.79	23.33	6 34 32.36	11.40
	* — 31° 31′ . .	15	32.7	35.0	36.4	47.6	48.8	50.3	51.6	52.8	4.1	5.4	7.9	36 50.24	0.06	23.33	6 37 13.51	11.27
	α Canis Majoris . .	16	32.5	34.6	35.9	45.8	46.8	48.1	49.4	50.4	0.5	1.7	3.8	38 48.14	— 0.02	23.34	6 39 11.46	12.79
R.	Venus II . . .	17	23.2	25.2	26.5	36.8	37.9	39.0	40.3	41.4	52.0	53.2	55.5	25 39.18	+ 0.01	23.80	18 26 2.99	0.55
	α Lyræ	18	36.5	39.0	40.6	52.8	54.2	55.7	57.3	58.5	10.9	12.4	14.9	31 55.71	0.01	23.81	18 32 19.53	7.62
	Moon II . . .	†19	47.2	49.4	50.6	1.1	2.0	3.4	4.7	6.1	16.6	17.7	19.9	8 3.52	0.01	23.83	19 8 27.36	. .
	α Aquilæ	20	29.9	31.8	33.0	42.6	43.7	44.9	46.1	47.1	56.9	58.1	0.1	43 44.93	0.01	23.85	19 44 8.79	11.66
	α Cygni	21	1.9	4.9	6.4	19.9	21.3	22.9	24.6	26.1	39.7	41.4	44.3	36 23.04	0.01	23.88	20 36 46.93	7.39
5	Sun I	22	59.2	1.1	2.4	12.3	13.3	14.5	15.7	16.9	27.0	28.2	30.3	13 14.63	0.01	23.90	21 13 38.54	. .
	Sun II	23	14.6	16.6	18.0	27.9	28.9	30.0	31.3	32.4	42.6	43.6	46.0	15 30.17	0.01	23.90	21 15 54.08	. .
	β Cephei	24	43.1	48.8	52.6	20.5	23.3	27.0	30.4	33.7	1.5	5.3	10.9	26 27.01	0.01	23.91	21 26 50.93	0.54
	α Andromedæ . .	25	41.3	43.4	44.8	55.6	56.7	58.2	59.5	0.7	11.7	13.0	15.3	1 58.20	0.01	23.99	0 2 22.20	12.76
Y.	Polaris	†26	45.0	4.5	54.5	21.5	0.0	50.5	39.0	. .	. .	. .	. .	4 47.86	4 4.65	24.03	. . . .	74.30
R.	Vesta	27	25.3	27.2	28.6	38.4	39.4	40.5	41.8	42.9	52.9	54.1	56.2	14 40.66	0.01	24.10	3 15 4.77	. .
	O. Arg. S. 2245 .	28	25.3	27.3	28.5	38.7	39.8	41.0	42.4	43.6	54.1	55.2	57.4	17 41.21	0.01	24.11	3 18 5.33	11.82
	Lacaille 1102 . .	29	23.4	25.6	27.0	37.9	39.0	40.4	41.8	42.8	54.0	55.4	57.7	20 40.45	0.01	24.11	3 21 4.57	11.05
	ε Eridani	†30	53.6	55.5	56.6	6.4	7.4	8.6	9.9	10.8	20.7	21.8	24.0	26 8.66	+ 0.01	24.11	3 26 32.78	12.58
	B. A. C. 1229 . .	31	. .	. .	. .	57.0	58.4	0.3	16.0	18.4	19.8	21.0	22.4	50 11.66	— 26.80	24.12	3 50 8.98	12.56
	γ Eridani	32	2.8	4.8	6.2	16.0	17.1	18.3	19.5	20.6	30.6	31.8	33.8	51 18.32	+ 0.01	24.13	3 51 42.46	12.59
7	α Lyræ	33	34.9	37.5	39.0	51.1	52.4	54.0	55.5	56.8	9.2	10.7	13.3	31 54.04	0.00	25.51	18 32 19.55	7.69
	Venus II . . .	†34	. .	. .	. .	5.3	6.5	7.8	9.1	10.2	20.7	21.9	24.1	41 13.20	— 5.34	25.52	18 41 33.38	0.55
	α Aquilæ	†35	. .	. .	. .	. .	. .	. .	14.8	16.2	17.3	18.6	19.9	44 17.36	34.02	25.56	19 44 8.90	11.72
8	Sun I	†36	. .	. .	. .	11.5	12.6	13.8	14.9	16.2	26.1	27.4	29.5	25 19.00	— 5.13	25.63	21 25 39.50	. .
	Sun II	†37	13.2	15.2	16.5	26.4	27.5	28.6	29.9	31.0	41.0	42.3	44.4	27 28.73	+ 0.01	25.63	21 27 54.37	. .
	α Andromedæ .	38	39.5	41.7	43.2	53.8	55.0	56.3	57.7	58.8	9.9	11.1	13.5	0 56.41	0.00	25.72	0 1 22.13	12.73
	Polaris	†39	26.0	22.0	11.0	58.0	33.0	. .	. .	. .	. .	. .	. .	46 18.00	+22 30.76	25.76	1 9 14.52	71.65
	ε Orionis	40	. .	. .	. .	6.6	7.8	9.8	25.0	27.4	28.7	30.0	31.3	29 20.82	— 26.02	25.92	5 29 20.72	14.17
	* — 29° 2′ . . .	41	. .	. .	. .	22.0	23.5	25.8	43.1	45.9	47.5	48.9	50.4	32 38.39	— 29.63	25.93	5 32 34.69	11.16
	O. Arg. S. 4213 .	42	56.6	58.7	0.2	11.3	12.4	13.7	15.1	16.4	27.4	28.7	31.0	35 13.77	+ 0.13	25.94	5 35 39.48	11.07
	* — 30° 41′ . .	43	11.5	13.6	15.3	26.2	27.4	28.8	30.1	31.3	42.6	43.8	46.2	38 28.80	+ 0.13	25.94	5 38 54.87	10.97
	Lacaille 1990 . .	44	. .	. .	. .	35.1	36.4	38.7	55.9	58.8	0.4	1.8	3.1	41 51.28	— 29.53	25.94	5 41 47.69	11.24
	B. A. C. 1860 . .	45	32.4	34.5	35.8	46.1	47.2	48.6	49.8	51.0	1.5	2.7	4.8	43 48.58	+ 0.10	25.94	5 44 14.62	11.93
	α Orionis	46	9.7	11.7	12.9	22.6	23.5	24.8	26.0	27.0	36.7	38.0	40.0	47 24.81	— 0.02	25.94	5 47 50.73	15.16
	O. Arg. S. 4534 .	47	26.0	28.0	29.6	40.1	41.3	42.7	44.0	45.2	56.2	57.5	59.9	54 42.77	+ 0.12	25.95	5 55 8.84	11.40
	B. A. C. 1946 . .	48	6.0	8.2	9.5	20.1	21.3	22.7	24.0	25.2	35.9	37.2	39.4	57 22.68	0.11	25.95	5 57 48.74	11.62
	Lacaille 2126 . .	49	28.9	30.8	32.3	42.6	43.8	45.1	46.3	47.6	58.2	59.4	1.8	59 45.16	+ 0.10	25.95	6 0 11.21	11.88
	B. A. C. 1997 . .	50	. .	. .	. .	19.6	20.8	22.2	23.5	24.5	35.4	36.7	38.9	5 27.70	— 5.43	+25.95	6 5 48.22	— 11.64

2. Faint; cloudy.
19. Just visible.
26. Through clouds.
30. Through clouds.
34. Through clouds.
35. Through clouds.
36–37. Through clouds.
39. Faint, blurred, and very unsteady.

		s.
February	5, 18h. to 4h. n. =	0.00.
	7–8, 18h. to 1h.	— 0.02.
	8, 5h. to 9h.	— 0.20.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	s.	s.	s.
Feb. 5, 23.0 h.	+ 23.96	+ 0.034	+ 0.005
8, 3.6	+ 25.86	+ 0.038	+ 0.010

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 8	Lacaille 2190	1	27.8	29.9	31.3	41.7	42.8	44.0	45.4	46.5	57.0	58.3	0.6	7 44.12	+ 0.10	+25.96	6 8 10.18	— 11.96
	Lacaille 2208	2	55.4	57.5	58.8	9.3	10.3	11.6	12.9	14.2	24.5	26.0	28.3	11 11.71	+ 0.10	25.96	6 11 37.77	— 11.97
δ	Ursæ Minoris, S. P.	3	26.0	1.5	43.0	23.0	42.0	32.5	59.0	39.0	. .	. .	. .	22 33.25	— 7 10.05	25.97	. . . .	+ 101.07
γ	Geminorum	4	. .	. .	. .	25.5	26.5	27.7	28.9	30.0	40.0	41.4	43.4	29 32.92	5.22	25.97	6 29 53.67	— 16.34
	* — 28° 36′	5	. .	. .	. .	33.3	34.6	37.0	54.3	57.0	58.3	59.7	1.1	31 49.41	29.51	25.97	31 45.87	11.54
	* — 23° 19′	6	. .	. .	. .	20.1	21.2	22.4	23.7	24.9	35.3	36.7	38.7	36 27.88	5.29	25.97	6 36 48.56	12.18
	O. Arg. S. 5615	7	. .	. .	. .	59.9	0.9	2.4	3.6	4.7	15.6	16.9	19.3	39 7.91	— 5.46	25.98	6 39 28.43	11.76
	O. Arg. S. 5704	8	49.1	51.2	52.5	3.0	4.2	5.7	6.9	8.0	18.8	20.0	22.5	42 5.63	+ 0.11	25.98	6 42 31.72	11.88
	B. A. C. 2244	9	. .	. .	. .	13.5	14.4	15.7	17.2	18.4	29.4	30.5	32.6	44 21.46	— 5.46	25.98	6 44 41.98	11.80
	O. Arg. S. 5790	10	3.5	5.7	7.2	17.9	19.0	20.4	21.7	22.8	33.6	34.8	37.3	45 20.35	+ 0.11	25.98	6 45 46.44	11.82
	Lacaille 2519	11	30.3	32.6	34.0	45.3	46.5	47.9	49.3	50.4	1.9	3.2	5.5	48 47.90	0.13	25.98	6 49 14.01	11.30
	Lacaille 2328	12	4.7	7.0	8.5	19.7	20.7	22.4	23.6	24.9	36.2	37.6	40.0	50 22.30	+ 0.13	25.98	6 50 48.41	11.32
a^1	Geminorum	13	49.2	50.9	52.3	53.6	56.4	. .	7.4	10.0	11.7	13.3	14.8	25 31.96	— 0.40	26.00	7 25 57.56	18.31
a^2	Geminorum	14	14.4	16.6	18.3	29.6	30.7	32.0	33.5	34.8	46.2	47.6	50.0	25 32.16	— 0.12	26.00	7 25 58.04	18.26
	Lacaille 2870	15	12.1	14.2	15.8	26.3	27.4	28.7	29.9	31.0	41.7	43.2	45.4	30 28.70	+ 0.11	26.01	7 30 54.82	12.38
	O. Arg. S. 7239	16	31.9	34.5	35.7	46.6	47.6	49.0	50.3	51.6	2.4	3.6	6.0	34 49.02	0.12	26.01	7 35 15.15	12.15
	O. Arg. S. 7289	17	7.9	10.2	11.4	22.2	23.6	24.9	26.0	27.3	38.3	39.6	41.9	36 24.85	0.12	26.01	7 36 50.98	12.17
	Lacaille 2952	18	27.2	29.3	30.8	41.2	42.2	43.6	44.8	45.9	56.4	57.8	59.9	39 43.55	0.10	26.01	7 40 9.66	12.57
	O. Arg. S. 7443	19	34.4	36.4	37.7	. .	49.3	50.6	51.8	. .	3.8	5.0	6.9	41 50.66	0.09	26.02	7 42 16.77	12.59
	* — 26° 4′	20	46.0	48.2	49.7	0.1	1.3	2.6	3.7	4.0	15.7	17.1	19.5	47 2.54	0.11	26.02	7 47 28.67	12.42
	* — 26° 0′	21	39.6	41.6	43.0	53.7	54.9	56.2	57.5	58.5	9.4	11.6	13.0	47 56.27	0.11	26.02	7 48 22.40	12.43
	* — 26° 4′	22	56.9	59.0	0.5	11.1	12.2	13.6	14.8	16.0	26.7	27.8	30.4	49 13.55	0.11	26.02	7 49 39.68	12.44
	Lacaille 3127	23	9.5	11.5	13.1	23.5	24.7	26.2	27.3	28.4	39.2	40.4	42.9	58 26.06	+ 0.11	26.03	7 58 52.20	12.59
ρ	Argus	24	. .	. .	. .	19.2	20.1	21.4	22.8	23.8	34.5	35.7	38.0	1 26.94	— 5.32	26.03	8 1 47.65	12.66
	O. Arg. S. 8074	25	. .	. .	. .	41.9	43.3	45.5	1.9	4.7	5.9	7.5	8.7	2 57.42	— 28.39	26.03	8 2 55.06	12.74
	Lacaille 3229	26	48.0	50.2	51.8	2.5	3.6	5.1	6.5	7.6	18.7	20.0	22.6	10 5.15	+ 0.13	26.03	8 10 31.31	12.28
	* — 26° 39′	27	20.7	22.9	24.3	34.9	36.0	37.4	38.8	40.0	50.8	52.0	54.2	13 37.45	0.11	26.04	8 14 3.60	12.60
	Lacaille 3279	28	48.8	51.0	52.4	3.2	4.3	5.8	7.2	8.3	19.2	20.6	22.8	16 5.78	0.12	26.04	8 16 31.94	12.48
	* — 26° 42′	29	53.8	56.0	57.3	8.1	9.2	10.4	11.8	12.9	23.7	25.0	27.4	20 10.51	+ 0.11	26.04	8 20 36.66	12.66
	O. Arg. S. 8581	30	. .	. .	. .	4.5	5.5	6.9	8.2	9.4	20.3	21.6	23.8	22 12.52	— 5.46	26.04	8 22 33.10	12.64
	Lacaille 3356	31	20.3	22.4	23.9	35.1	36.3	37.8	39.2	40.3	51.7	53.1	55.4	24 37.77	+ 0.13	26.04	8 25 3.94	12.25
	* — 31° 49′	32	21.0	23.4	25.0	36.0	37.2	38.7	40.2	41.3	52.7	54.0	56.5	26 38.73	0.13	26.04	8 27 4.90	12.26
	B. A. C. 2910	33	35.8	37.8	39.2	49.6	50.8	52.3	53.6	54.7	5.4	6.7	8.9	30 52.25	0.11	26.05	8 31 18.41	12.82
	O. Arg. S. 8806	34	50.9	53.2	54.4	5.0	6.2	7.4	8.7	9.9	20.5	21.9	24.1	32 7.47	0.11	26.05	8 32 33.63	12.83
	Lacaille 3474	35	43.4	45.8	47.2	57.9	59.2	0.5	1.6	3.0	14.1	15.5	17.6	37 0.53	+ 0.12	26.05	8 37 26.70	12.62
	Weisse 1050	36	23.5	24.5	26.7	36.3	37.4	38.5	39.7	40.7	50.5	51.6	53.7	40 38.46	— 0.01	26.05	8 41 4.50	15.30
	Weisse 1077	37	45.9	47.9	49.0	58.5	59.6	0.8	2.0	3.0	2.6	3.7	5.9	42 0.81	— 0.01	26.05	8 42 26.85	15.30
17	Hydræ	†38	11.2	13.0	14.4	23.8	25.0	26.0	27.2	28.3	38.1	39.2	41.2	48 26.13	+ 0.04	26.06	8 48 52.23	14.32
	Lacaille 3607	39	2.9	5.0	6.5	17.0	18.2	19.6	20.9	22.1	33.0	34.2	36.6	51 19.64	0.11	26.06	8 51 45.81	12.92
	O. Arg. S. 9243	40	13.0	15.3	16.7	27.0	28.2	29.5	30.7	32.1	42.6	43.6	45.9	54 29.51	+ 0.10	26.06	8 54 55.67	13.22
	B. A. C. 3096	41	. .	. .	. .	0.9	2.4	4.4	21.3	24.0	25.5	26.7	28.3	57 16.69	— 28.58	26.06	8 57 14.17	13.14
κ	Cancri	42	44.0	46.0	47.3	57.1	58.0	59.2	0.5	1.5	11.2	12.6	14.8	59 59.29	— 0.03	26.07	9 0 25.33	— 15.64
δ	Ursæ Minoris	†43	11.0	44.0	5.0	44.0	1.0	21.5	41.5	59.5	42.0	2.0	37.0	15 22.59	+ 0.08	26.40	18 15 49.07	+ 100.94
Y. a	Lyræ	44	. .	36.6	38.1	50.3	51.6	53.0	54.7	56.0	8.3	9.9	. .	31 53.17	0.03	26.41	18 32 19.61	— 7.72
	Venus II	45	1.3	3.3	4.7	15.0	16.0	17.3	18.7	19.7	30.2	31.4	33.6	46 17.38	0.02	26.43	18 46 43.83	0.54
a	Aquilæ	46	27.2	29.2	30.4	40.0	41.0	42 3	43.5	44.6	54.2	55.4	57.5	43 42.30	0.01	26.49	19 44 8.80	11.73
9 a	Andromedæ	47	38.4	40.6	42.0	52.9	54.0	55.3	56.8	58.0	8.9	10.2	12.5	0 55.42	0.01	26.78	0 1 22.21	12.72
	Polaris	†48	20.0	9.5	55.0	32.0	. .	. .	. .	. .	. .	. .	. .	46 44.12	+22 3.12	26.84	1 9 13.08	70.81
	Weisse (2) 1261	49	15.2	17.3	18.5	28.5	29.6	30.8	31.9	33.1	43.2	44.5	46.6	58 30.84	— 0.01	27.05	3 58 57.88	15.48
	o^1 Eridani	50	33.0	34.9	36.3	45.8	46.8	48.0	49.3	50.3	0.0	1.2	3.2	4 48.07	+ 0.02	+27.06	4 5 15.15	— 13.18

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 9, 2.2	+ 26.93	+ 0.067	+ 0.015

38. Close double same R. A.
43. Through thin clouds.
48. Through clouds.

s.
February 8–9, 18h. to 2h. n. = — 0.01.
9, 3h. to 5h. 0.07.
5h. to 7h. — 0.16.

r.
February 9, 7h. Image east 0.69. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 9	Lalande 7931	1	. .	. .	. .	46.8	47.9	49.3	50.5	51.7	. .	. .	. .	6 49.24	+ 0.10	+27.06	4 7 16.40	— 11.56
Y.	O. Arg. S. 2938	2	16.1	18.3	19.5	30.0	31.0	32.4	33.6	34.8	45.3	46.6	48.9	9 32.41	+ 0.05	27.06	4 9 59.52	11.56
	Weisse (2) 270	3	58.2	0.4	1.7	11.7	12.7	14.0	15.3	16.3	26.5	27.7	29.9	13 14.04	— 0.01	27.06	4 13 41.09	15.70
	Weisse (2) 348	4	. .	. .	. .	21.4	22.5	23.7	25.0	26.0	36.3	37.5	39.6	16 29.00	5.24	27.07	4 16 50.83	15.78
	Weisse (2) 376	5	15.8	18.0	19.2	29.2	30.3	31.6	32.7	33.8	44 0	45.3	47.5	17 31.58	— 0.01	27.07	4 17 58.64	15.79
	O. Arg. S. 3082	6	3.3	5.4	6.8	17.1	18.2	19.6	20.7	21.9	32.3	33.7	35.9	20 19.54	+ 0.05	27.07	4 20 46.66	11.59
	* — 23° 40′	7	21.3	23.5	24.8	35.3	36.4	37.5	38.8	39.9	50.5	51.8	54.0	24 37.62	0.05	27.08	4 25 4.75	11.57
	Lacaille 1509	8	50.5	52.8	54.0	4.7	5.7	7.0	8.3	9.5	20.3	21.5	23.8	27 7.10	0.05	27.08	4 27 34.23	11.33
	B. A. C. 1450	9	45.3	47.5	48.8	59.3	0.3	1.5	2.8	4.0	14.8	16.0	18.2	34 1.68	0.05	27.09	4 34 28.82	11.47
	B. A. C. 1471	10	4.4	6.7	8.0	18.7	19.8	21.2	22.5	23.7	34.7	36.1	38.2	38 21.27	0.05	27.09	4 38 48.41	11.12
	O. Arg. S. 3389	11	55.5	57.8	59.1	10.1	11.4	12.8	14.0	15.3	26.3	27.6	30.0	41 12.72	0.06	27.10	4 41 39.88	10.89
	O. Arg. S. 3437	12	19.9	22.3	23.7	34.4	35.4	36.8	38.1	39.1	50.2	51.5	53.8	44 36.84	0.05	27.10	4 45 3.99	11.19
	O. Arg. S. 3494	13	36.0	38.4	39.7	50.6	51.7	53.0	54.4	55.6	6.7	8.0	10.3	48 53.13	0.06	27.10	4 49 20.29	10.98
	* — 29° 6′	14	39.3	31.5	32.9	43.6	44.8	46.2	47.6	48.8	59.8	1.0	3.4	52 46.26	+ 0.06	27.11	4 53 13.43	10.99
11	Orionis	15	7.5	9.5	10.7	20.6	21.6	22.9	24.2	25.2	35.1	36.5	38.5	56 22.94	0.00	27.11	4 56 50.05	15.73
	O. Arg. S. 3630	16	. .	. .	. .	18.3	19.6	21.9	39.0	41.7	43.1	44.8	46.2	58 34.32	— 29.37	27.12	4 58 32.07	11.16
	O. Arg. S. 3691	17	35.7	38.0	39.5	50.5	51.5	52.9	54.3	55.4	6.5	7.8	10.2	1 52.94	+ 0.10	27.12	5 2 20.16	11.03
	Lacaille 1774	18	21.5	24.0	25.3	36.4	37.5	38.9	40.2	41.4	52.7	54.0	56.3	9 38.93	0.11	27.13	5 10 6.17	10.94
	O. Arg. S. 3862	19	44.0	46.3	47.5	58.6	59.7	1.1	2.4	3.5	14.6	15.9	18.4	13 1.09	0.10	27.13	5 13 28.32	11.06
	O. Arg. S. 3884	20	43.9	46.3	47.6	58.5	59.6	1.0	2.4	3.6	14.8	16.0	18.3	15 1.09	+ 0.11	27.14	5 15 28.34	11.03
β	Tauri	21	. .	. .	. .	14.5	15.8	17.0	18.4	19.5	30.7	31.9	34.1	17 22.74	— 5.74	27.14	5 17 44.14	17.51
	* — 29° 27′	22	1.4	2.7	4.2	5.5	8.2	. .	17.1	20.0	21.4	22.9	24.4	22 42.78	— 0.16	27.14	5 23 9.76	11.04
	* — 29° 27′	23	31.4	33.6	35.0	46.0	47.1	48.6	49.9	51.1	2.1	3.4	5.8	22 48.55	+ 0.11	27.14	5 23 15.80	11.04
	* — 28° 31′	24	. .	. .	. .	. .	. .	. .	1.2	3.9	5.3	6.8	8.2	25 5.08	— 38.20	27.14	5 24 54.02	11.17
	O. Arg. S. 4060	25	47.2	49.5	50.8	1.3	2.3	3.8	5.0	6.2	17.0	18.2	20.4	27 3.79	+ 0.09	27.15	5 27 31.03	11.56
	O. Arg. S. 4102	26	. .	. .	. .	31.0	32.2	33.4	34.8	36.0	46.8	48.2	50.5	29 39.11	— 5.48	27.15	5 30 0.78	11.35
	Lacaille 1916	27	39.3	41.5	43.0	54.0	55.3	56.8	58.0	59.3	10.5	12.0	14.3	31 56.72	+ 0.11	27.15	5 32 23.98	10.86
	* — 25° 35′	28	48.8	51.2	52.5	3.0	4.0	5.4	6.7	7.8	18.6	20.0	22.3	35 5.48	+ 0.09	27.16	5 35 32.73	11.58
	O. Arg. S. 4237	29	. .	. .	. .	45.2	46.5	48.9	6.0	8.7	10.0	11.5	13.0	37 1.22	— 29.30	27.16	5 36 59.08	11.31
	Lacaille 1977	30	24.0	26.5	27.8	39.0	40.3	. .	43.0	44.3	55.5	57.0	59.4	39 41.68	+ 0.11	27.16	5 40 8.95	10.82
	O. Arg. S. 4355	31	25.9	28.2	29.5	40.2	41.2	42.6	44.0	45.1	55.9	57.1	59.3	43 42.64	0.10	27.17	5 44 9.91	11.52
	O. Arg. S. 4395	32	54.1	56.3	57.6	8.3	9.4	10.7	12.0	13.2	24.0	25.2	27.6	46 10.76	0.09	27.17	5 46 38.02	11.58
	* — 28° 56′	33	36.2	38.4	39.9	50.8	51.9	52.3	54.6	55.8	6.9	8.2	10.5	48 52.32	0.10	27.17	5 49 19.59	11.23
	O. Arg. S. 4453	34	34.8	37.1	38.4	49.2	50.4	51.8	53.0	54.4	5.4	6.7	9.1	49 51.85	0.10	27.17	5 50 19.12	11.23
	O. Arg. S. 4481	35	13.2	15.4	16.8	27.7	28.9	30.2	31.6	32.7	43.7	45.0	47.4	51 30.24	+ 0.10	27.18	5 51 57.52	11.25
	O. Arg. S. 4534	36	. .	. .	. .	38.9	40.1	41.4	42.6	43.8	54.7	56.3	58.4	54 47.02	— 5.51	27.18	5 55 8.69	11.39
γ	Orionis	37	8.2	10.2	11.6	21.4	22.3	23.7	24.8	25.8	35.8	37.0	39.1	59 23.63	0.03	27.18	5 59 50.78	16.02
	O. Arg. S. 4680	38	. .	. .	. .	47.4	48.6	49.9	51.2	52.6	3.7	5.0	7.4	1 55.72	— 5.65	27.18	6 2 17.25	11.11
	Lacaille 2189	39	57.3	59.6	0.9	11.8	12.9	14.2	15.5	16.7	27.7	29.0	31.3	7 14.26	+ 0.10	27.19	6 7 41.55	11.39
	O. Arg. S. 4851	40	26.3	28.6	30.1	40.8	42.0	43.2	44.6	45.7	56.7	58.0	0.4	8 43.31	+ 0.10	27.19	6 9 10.60	11.38
	O. Arg. S. 4861	41	. .	. .	. .	24.1	25.7	27.9	45.3	48.0	49.2	50.7	52.2	9 40.39	— 29.56	27.19	6 9 38.02	— 11.37
δ	Ursæ Minoris, S. P.	42	31.5	58.5	37.5	58.0	41.0	20.0	0.5	43.0	. .	. .	. .	16 43.75	1 21.66	27.20	6 15 49.29	+ 100.79
	O. Arg. S. 5410	43	. .	. .	. .	8.1	9.2	10.5	11.9	12.9	24.0	25.3	27.5	32 16.18	— 5.50	27.22	6 32 37.90	— 11.65
	O. Arg. S. 5519	44	31.7	33.9	35.3	46.0	47.2	48.6	49.8	51.0	2.1	3.4	5.5	35 48.59	+ 0.10	27.22	6 36 15.91	11.66
ε	Canis Majoris	45	34.8	37.1	38.5	49.3	50.4	51.8	53.2	54.4	5.3	6.7	9.0	52 51.86	0.10	27.24	6 53 19.20	11.67
α	Lyræ	46	33.1	35.5	37.3	49.3	51.7	52.2	53.8	55.0	7.3	8.8	11.5	31 52.32	0.01	. .	. . . .	7.74
R.	Venus II	47	11.0	12.9	14.4	24.6	25.7	27.0	28.3	29.5	39.8	41.3	43.4	51 27.08	0.03	27.42	18 51 54.53	0.54
	Mercury II	†48	38.8	40.8	42.0	52.0	53.2	54.6	55.9	56.9	7.1	8.3	10.5	52 54.55	0.03	27.46	19 53 22.04	— 0.28
10	Sun I	49	53.4	55.5	56.6	6.3	7.3	8.6	9.8	11.0	21.0	22.1	24.1	33 8.70	0.03	27.54	21 33 36.27	. .
	Sun II	†50	7.7	9.9	11.1	20.9	21.9	23.1	24.3	25.4	. .	. .	. .	35 18.04	+ 5.19	+27.54	21 35 50.77	. .

48. Faint and unsteady.
50. Both limbs serrated and flaming.

s.
February 9–10, 18h. to 2h. n. = — 0.02.
10, 5h. to 7h. — 0.18.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 10, 2.7	+ 27.79	+ 0.048	+ 0.020

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 10	α Pegasi	1	16.4	18.3	19.7	20.6	30.5	31.8	33.0	34.0	44.1	45.3	47.3	57 31.82	+ 0.01	+27.61	22 57 59.44	— 12.06
	α Andromedæ	2	37.5	39.8	41.1	52.6	53.0	54.5	55.8	57.0	7.9	9.2	11.5	0 54.48	+ 0.01	27.66	0 1 22.15	12.71
	Moon I	3	57.6	59.6	1.0	- -	- -	- -	- -	- -	25.1	26.4	28.5	9 13.03	— 0.02	27.67	0 9 40.68	- -
Y.	Polaris	4	23.0	20.0	7.0	53.0	30.5	- -	- -	- -	- -	- -	- -	46 14.70	+22 30.38	27.70	1 9 12.78	70.03
R.	α Orionis	5	7.7	9.7	11.0	20.7	21.7	22.8	23.9	25.1	34.9	36.2	38.0	47 22.88	0.00	27.94	5 47 50.82	15.14
	* — 29° 57′	†6	- -	- -	- -	10.9	12.2	14.5	32.1	34.8	36.2	37.7	39.2	50 27.20	— 29.89	27.94	5 50 25.25	11.09
	ν Orionis	7	- -	9.4	10.6	20.3	21.5	22.6	23.8	25.0	35.1	36.3	- -	59 22.73	— 0.02	27.95	5 59 50.66	16.01
	δ Ursæ Minoris, S. P.	†8	32.0	57.5	36.5	- -	- -	- -	- -	- -	59.0	39.0	5.5	15 18.25	+ 3.36	27.96	- - - -	- -
Y.	α Lyræ	9	32.2	34.7	36.3	38.5	39.7	41.4	42.8	44.1	6.4	8.0	10.6	31 41.34	0.01	28.28	18 32 19.63	7.77
	Venus II	10	20.5	22.6	23.9	34.0	35.2	36.6	37.9	39.0	49.3	50.7	52.8	56 36.59	0.03	28.29	18 57 4.91	0.54
	α Aquilæ	11	25.4	27.6	28.7	38.4	39.3	40.5	41.7	42.8	52.4	53.7	55.7	43 40.56	0.02	28.33	19 44 8.91	11.77
	Mercury II	12	58.4	0.4	1.7	11.8	12.9	14.2	15.4	16.5	26.8	28.0	30.3	55 14.22	0.03	28.34	19 55 42.59	0.28
11	Sun I	13	49.6	51.5	52.7	2.6	3.6	4.8	5.9	7.0	17.0	18.2	20.3	37 4.84	0.03	28.44	21 37 33.31	- -
	Sun II	14	3.7	5.6	6.9	16.7	17.8	19.1	20.3	21.4	31.2	32.6	34.7	39 19.09	0.03	28.44	21 39 47.56	- -
	α Andromedæ	15	36.5	38.8	40.1	51.0	52.2	53.5	54.9	56.0	7.0	8.4	10.7	0 53.55	+ 0.01	28.57	0 1 22.13	12.70
	Polaris	†16	20.5	16.5	3.0	51.0	27.5	- -	14.0	51.5	40.5	35.0	27.5	8 47.95	— 4.60	28.64	- - - -	69.32
		†17	36.0	56.5	47.0	13.0	52.0	40.0	30.0	12.0	44.5	34.0	55.0					
	Moon	†18	10.1	12.2	13.4	23.4	24.4	25.6	26.8	27.9	38.0	39.2	41.3	5 25.66	+ 0.02	28.64	1 5 54.32	- -
	η Piscium	19	29.3	31.4	32.6	42.4	43.5	44.7	45.9	47.0	57.0	58.2	0.3	23 44.75	0.02	28.65	1 24 13.42	13.57
	o Piscium	20	29.9	32.0	33.2	42.8	43.8	45.0	46.2	47.2	57.0	58.2	0.3	37 45.05	+ 0.02	28.67	1 38 13.74	13.45
	Weisse 512	21	22.4	24.6	25.9	36.5	37.5	38.9	40.2	41.4	52.0	53.2	55.5	23 38.92	— 0.04	28.83	4 24 7.71	16.54
	Weisse 620	22	22.2	24.4	25.7	36.3	37.4	38.7	40.0	41.2	51.9	53.2	55.3	28 38.75	— 0.04	28.83	4 29 7.54	16.66
	Weisse (2) 713	23	32.4	34.5	35.9	46.1	47.2	48.5	49.8	50.9	- -	- -	- -	32 43.16	+ 5.36	28.83	4 33 17.35	16.33
	Weisse (2) 719	24	- -	- -	- -	4.4	5.4	6.8	8.0	9.1	- -	- -	- -	33 6.74	+ 0.02	28.83	4 33 35.59	16.32
	Weisse (2) 720	25	- -	- -	- -	20.6	21.9	24.0	40.5	43.1	44.4	45.9	47.3	33 35.96	— 28.17	28.83	4 33 36.62	16.33
	Lalande 8923	26	- -	- -	- -	48.9	49.9	51.1	52.3	53.3	- -	- -	- -	36 51.10	+ 0.08	28.84	4 37 20.02	13.66
	μ Eridani	27	0.0	2.0	3.2	12.7	13.7	14.9	16.1	17.1	26.7	27.9	30.0	38 14.94	0.03	28.84	4 38 43.81	13.69
	O. Arg. S. 3389	28	53.8	56.2	57.5	8.4	9.6	11.0	12.3	13.5	24.7	26.0	28.3	41 11.03	+ 0.10	28.84	4 41 39.97	10.85
	O. Arg. N. 5260	29	44.6	47.6	49.5	5.0	6.4	8.4	10.2	11.7	27.4	29.5	32.5	44 8.44	— 0.13	28.84	4 44 37.15	21.45
	O. Arg. S. 3494	30	34.3	36.6	38.1	48.9	50.0	51.3	52.8	54.0	5.0	6.4	8.6	48 51.45	+ 0.10	28.85	4 49 20.40	10.94
	O. Arg. S. 3513	31	- -	- -	- -	53.8	54.9	56.3	57.6	58.8	9.7	11.0	13.3	50 1.92	— 5.52	28.85	4 50 25.25	11.09
	* — 29° 5′	32	27.6	29.8	- -	42.2	43.3	44.6	46.0	47.1	- -	59.4	1.8	52 44.64	+ 0.11	28.85	4 53 13.60	10.95
	* — 31° 34′	33	- -	- -	- -	40.4	41.6	43.0	44.5	45.7	- -	- -	- -	55 43.04	0.16	28.85	4 56 12.05	10.64
	Lacaille 1693	34	11.7	14.0	15.4	26.5	27.7	29.1	30.5	31.8	43.2	44.6	46.9	56 29.22	+ 0.10	28.86	4 56 58.18	10.65
	O. Arg. S. 3670	35	- -	- -	- -	56.2	57.6	59.8	17.2	20.0	21.4	22.6	24.2	1 12.38	— 29.57	28.86	5 1 11.67	11.02
	Weisse (2) 49	36	10.8	13.0	14.4	25.5	26.6	28.0	29.4	30.5	41.7	43.2	45.5	3 28.05	0.05	28.86	5 3 56.86	17.62
	Weisse (2) 111	37	49.0	51.3	52.7	3.7	4.9	6.3	7.7	8.8	20.1	21.3	23.7	5 6.32	— 0.05	28.86	5 5 35.13	17.63
	O. Arg. S. 3812	38	35.8	37.7	39.3	50.0	51.1	52.5	53.8	55.0	5.9	7.2	9.5	9 52.53	+ 0.09	28.86	5 10 21.48	11.21
	O. Arg. S. 3830	39	5.6	7.8	9.1	19.9	21.0	22.3	23.6	24.8	35.6	37.0	39.3	11 22.36	0.09	28.87	5 11 51.32	11.22
	O. Arg. S. 3866	40	14.2	16.5	17.7	28.7	29.8	31.2	32.4	33.5	44.5	45.8	48.0	13 31.12	+ 0.09	28.87	5 14 0.08	11.24
	O. Arg. N. 5930	41	14.4	19.7	23.7	51.8	54.8	58.4	2.2	5.2	33.5	36.9	43.3	22 58.54	— 0.33	28.88	5 23 27.09	31.93
	δ Orionis	42	- -	- -	- -	48.4	49.7	51.7	6.9	9.3	10.5	11.7	13.1	25 2.66	26.00	28.88	5 25 5.54	14.20
	O. Arg. N. 6031	43	36.3	41.5	45.6	11.5	14.3	17.5	20.7	23.5	50.5	53.8	59.0	29 17.65	0.31	28.89	5 29 46.23	30.69
	O. Arg. N. 6052	44	- -	- -	- -	18.6	21.4	25.0	28.2	30.9	- -	- -	- -	30 24.82	0.18	28.89	5 30 53.53	30.71
	O. Arg. N. 6159	45	14.9	21.0	24.9	54.4	57.7	1.3	5.0	8.4	38.0	42.1	48.5	36 1.47	— 0.34	28.89	5 36 30.02	33.22
	* + 25° 46′	46	- -	- -	- -	8.1	9.2	10.4	11.7	12.9	- -	- -	- -	41 10.46	+ 0.01	28.90	5 41 39.37	17.26
	(* 94) W.	47	13.6	15.8	17.1	27.7	28.9	30.2	31.5	32.7	43.4	44.7	46.9	43 30.23	— 0.04	28.90	5 43 59.09	17.27
	O. Arg. N. 6362	48	52.4	59.0	3.4	35.1	38.2	42.6	46.4	50.0	21.8	26.3	32.9	49 42.55	0.37	28.91	5 30 11.09	35.07
	O. Arg. S. 4527	49	- -	- -	-	32.8	34.2	36.5	54.0	57.7	58.1	59.7	1.0	54 49.25	29.70	28.91	5 54 48.46	11.19
	(* 116) W.	50	0.0	7.6	12.0	45.6	49.0	52.7	57.5	1.1	35.6	39.2	47.0	57 53.39	— 0.39	+28.91	5 58 21.91	— 36.53

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 11, 2.9	+ 28.74	+ 0.057	+ 0.020

6. Duplex.
8. Steady.
16–17. Not very steady.
18. Fine observation.

s.
February 10–11, 18h. to 2h. n. = — 0.02.
4h. to 6h. 0.13.
6h. to 8h. — 0.18.
February 11. Stars steady; wind south.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 11	* — 28° 10′ . .	1	56.0	58.1	59.6	10.4	11.5	12.7	14.0	15.2	26.3	27.6	29.9	9 12.85	+ 0.12	+28.93	6 9 41.90	— 11.41
	* — 28° 57′ . .	2	11.5	13.8	15.2	26.2	27.3	28.6	29.9	31.1	42.2	43.5	45.9	12 28.65	+ 0.12	28.93	6 12 57.70	11.33
	O. Arg. S. 4961 .	3	. .	. .	. .	. .	. .	. .	0.0	2.7	4.2	5.5	7.2	14 3.92	— 38.33	28.93	6 13 54.52	11.34
Y.	Dorpat 900 (1st *)	4	51.9	53.9	55.1	. .	. .	. .	. .	. .	18.8	21.1	22.0	16 7.13	— 0.03	28.93	6 16 36.03	14.95
	Dorpat 900 (2d *)	5	. .	. .	. .	5.1	6.1	7.4	8.5	9.5	. .	. .	. .	16 7.32	+ 0.06	28.93	6 16 36.31	14.95
	Dorpat 919 (1st *)	6	10.4	11.7	13.9	14.1	16.4	. .	. .	. .	. .	. .	. .	21 13.30	33.46	28.94	6 22 15.70	13.79
	Dorpat 919 (2d *)	7	31.8	33.8	35.1	45.0	45.9	47.1	48.3	49.4	58.8	59.9	2.0	21 47.01	+ 0.04	28.94	6 22 15.99	13.79
γ	Geminorum . . .	8	9.3	11.3	12.6	22.5	23.6	24.8	26.0	27.1	37.1	38.3	40.5	29 24.83	— 0.03	28.94	6 29 53.74	16.30
	O. Arg. S. 5415 .	9	59.9	2.0	3.4	13.9	14.9	16.3	17.5	18.6	29.2	30.4	32.6	32 16.25	+ 0.10	28.95	6 32 45.30	12.11
	O. Arg. S. 5450 .	10	13.5	15.7	17.2	27.4	. .	29.8	. .	32.1	42.8	44.0	46.2	33 29.86	0.11	28.95	6 33 58.92	12.10
α	Canis Majoris . .	11	. .	28.8	30.1	40.0	41.1	42.3	43.4	44.7	54.7	56.0	. .	38 42.34	0.08	28.95	6 39 11.37	12.74
	O. Arg. S. 5704 .	12	45.9	48.1	49.5	0.0	1.2	2.5	3.7	5.0	15.7	17.0	19.3	42 2.54	+ 0.11	28.96	6 42 31.61	11.84
	O. Arg. S. 5745 .	13	. .	. .	. .	. .	. .	. .	13.1	15.8	17.2	18.7	20.1	44 16.98	— 38.16	28.96	6 44 7.78	11.61
	* — 28° 32′ . .	14	53.9	56.2	57.6	8.4	9.4	10.8	12.3	13.4	24.4	25.8	28.1	45 10.94	+ 0.12	28.96	6 45 40.02	11.61
	Lacaille 2519 . .	15	27.2	29.8	31.1	42.3	43.4	44.9	46.2	47.5	58.9	0.2	2.5	48 44.91	0.13	28.96	6 49 14.00	11.27
	Lacaille 2528 . .	16	1.8	4.2	5.5	16.7	17.8	19.3	20.6	21.8	33.1	34.6	36.9	50 19.30	0.13	28.96	6 50 48.39	11.28
	Lacaille 2549 . .	17	10.8	13.2	14.6	25.7	26.7	28.1	29.6	30.7	42.0	43.3	45.8	52 28.23	0.13	28.97	6 52 27.33	11.43
	Lacaille 2566 . .	18	13.2	15.6	17.0	. .	. .	. .	. .	. .	44.6	46.0	48.4	54 30.80	0.08	28.97	6 54 59.85	11.40
	* — 30° 53′ . .	19	. .	. .	. .	32.4	33.4	34.9	36.3	37.6	. .	. .	. .	54 34.92	+ 0.19	28.97	6 55 4.08	11.41
	O. Arg. N. 7623 .	20	56.9	6.0	12.3	59.9	4.9	11.0	17.2	22.4	10.5	16.5	27.0	4 11.33	— 0.81	28.98	7 4 39.50	46.34
	O. Arg. N. 7681 .	21	. .	. .	. .	18.0	23.2	29.9	35.7	41.6	. .	. .	. .	7 29.68	0.60	28.98	7 4 58.06	48.20
	O. Arg. N. 7755 .	22	10.6	21.0	27.4	16.9	21.8	28.2	34.6	40.4	30.4	36.4	46.7	11 28.58	0.84	28.99	7 11 56.73	47.51
	* — 31° 1′ . .	23	39.9	42.3	43.7	54.7	55.9	57.2	58.7	59.9	11.1	12.5	14.8	16 57.34	0.13	28.99	7 17 26.46	11.59
	O. Arg. S. 6858 .	24	38.9	41.1	42.5	53.3	54.5	55.8	57.2	58.2	9.3	10.6	12.9	21 55.85	0.12	28.99	7 22 24.96	11.97
	O. Arg. S. 6941 .	25	52.5	54.0	55.4	56.7	59.2	. .	7.8	10.5	11.9	12.4	14.8	24 33.52	— 0.15	29.00	7 25 2.37	11.94
	O. Arg. S. 6946 .	26	20.3	22.5	23.8	34.7	35.8	37.3	38.6	39.8	50.8	52.0	54.3	24 37.26	+ 0.12	29.00	7 25 6.38	11.94
	* — 29° 5′ . .	27	. .	. .	. .	54.3	55.5	56.7	58.0	59.2	10.4	11.7	14.0	29 2.48	— 5.55	29.00	7 29 25.93	11.92
	* — 30° 59′ . .	†28	32.4	34.6	36.0	47.2	48.4	49.6	51.1	52.4	3.7	5.0	7.0	30 49.76	+ 0.13	29.00	7 31 18.89	11.73
	O. Arg. S. 7224 .	29	58.3	0.5	1.8	12.8	14.0	15.3	16.6	17.9	29.2	30.5	32.8	34 15.43	+ 0.13	29.01	7 34 44.57	11.89
β	Geminorum . .	30	16.3	18.5	19.8	30.8	31.8	33.2	34.7	35.9	46.8	48.1	50.4	36 33.31	— 0.07	29.01	7 37 2.25	17.54
	O. Arg. S. 7376 .	31	1.5	3.7	5.2	15.9	17.0	18.4	19.6	20.8	31.7	33.1	35.3	39 18.38	+ 0.12	29.01	7 39 47.51	12.21
	O. Arg. S. 7464 .	32	. .	. .	. .	29.1	30.2	31.5	32.9	34.6	. .	. .	. .	42 31.54	0.16	29.01	7 43 0.71	12.30
	O. Arg. S. 7465 .	33	16.6	18.7	20.1	. .	. .	. .	. .	. .	46.6	47.9	50.2	42 33.35	+ 0.07	29.01	7 43 2.43	12.30
φ	Geminorum . .	34	27.3	29.5	30.9	41.5	42.7	44.0	45.3	46.5	57.3	58.6	0.9	44 44.05	— 0.07	29.02	7 45 13.00	17.54
	* — 30° 32′ . .	35	7.5	9.9	11.2	22.4	23.5	24.8	26.3	27.4	38.7	40.0	42.3	49 24.91	+ 0.13	29.02	7 49 54.06	11.93
	* — 32° 44′ . .	36	12.8	15.2	16.7	27.9	29.0	30.6	31.9	33.1	44.8	46.1	48.1	51 30.56	0.14	29.02	7 51 59.72	11.75
	* — 28° 1′ . . .	37	14.0	16.2	17.6	28.4	29.6	30.8	32.2	33.5	44.4	45.8	48.1	53 30.96	0.12	29.02	7 54 0.10	— 12.26
λ	Ursæ Minoris, S. P.	38	. .	. .	. .	9.0	19.0	15.0	13.0	17.0	. .	. .	. .	58 14.60	5.87	29.03	. . . .	+ 304.01
α	Lyræ	†39	31.3	33.8	35.5	47.6	48.7	50.4	51.8	53.4	5.6	7.0	9.8	31 50.45	0.02	29.23	. . . .	— 7.80
R.	Venus II . . .	†40	30.0	32.2	33.4	43.6	44.8	46.0	47.3	48.5	59.0	0.2	2.4	1 46.13	0.03	29.23	19 2 15.39	0.53
12	Sun I	†41	23.2	24.6	26.0	27.2	29.6	. .	31.7	34.1	35.4	36.8	38.0	41 0.66	0.22	29.28	21 41 29.72	. .
	Sun II	†42	9.1	1.0	2.3	12.0	13.3	14.4	15.6	16.0	26.7	27.9	29.9	43 14.38	0.02	29.28	21 43 43.68	. .
Y.	Polaris	†43	. .	. .	. .	9.0	48.5	39.0	28.0	12.0	. .	. .	. .	8 39.30	2.35	29.35	. . . .	68.66
α	Arietis	44	46.1	48.3	49.6	0.0	1.0	2.3	3.6	4.8	15.3	16.5	18.7	59 2.38	0.02	29.37	. . . .	14.49
	Moon	45	55.8	57.8	59.1	9.1	10.2	11.5	12.7	13.8	23.9	25.2	27.4	1 11.50	0.02	29.37	2 1 40.89	. .
R.	Lacaille 1738 . .	46	37.8	39.8	41.3	51.9	53.0	54.2	55.6	56.7	7.4	8.8	11.0	4 54.32	0.10	20.26	5 5 14.68	11.34
β	Orionis	47	26.4	28.5	29.9	39.4	40.4	41.6	42.9	43.8	53.8	55.0	56.9	7 41.69	+ 0.04	20.26	5 8 1.99	12.28
β	Tauri	48	6.9	9.0	10.7	21.4	22.5	23.9	25.0	26.4	37.5	38.7	40.9	17 23.90	— 0.06	20.27	5 17 44.11	17.47
	Uranus	49	. .	. .	. .	8.2	9.8	11.7	28.4	30.8	32.2	33.8	35.0	21 23.74	— 28.37	20.27	5 21 15.64	. .
δ	Orionis	50	30.3	32.3	33.5	43.0	43.9	45.1	46.3	47.4	. .	. .	. .	24 40.22	+ 5.01	+20.28	5 25 5.51	— 14.18

28. Blurred.
39. Through thick haze.
40. Faint, through haze.
41–42. Through clouds.
43. Faint, through clouds.

February 11–12, 18h. to 2h. n. = s. — 0.01.
12, 5h. to 8h. — 0.16.
February 12, 2h. 30m. Shortened the pendulum of the clock 0.8 of a division.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Feb. 12, 22.7	+ 29.30	+ 0.019	+ 0.020
6.1	20.31	0.050	. .
21.6	+ 20.75	+ 0.026	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m s.	s.	h. m. s.	s.
Feb. 12	Weisse 603	1	..	..	..	57.0	58.2	0.3	15.6	17.8	19.1	20.4	21.6	25 11.25	— 26.00	+20.28	5 25 5.53	— 14.18
R.	δ Ursæ Minoris, S. P.	†2	40.0	7.5	46.0	5.5	48.5	28.5	8.0	51.0	8.5	48.0	14.5	15 27.82	+ 2.36	20.32	.. .. ..	+ 99.92
	O. Arg. S. 5251	3	3.9	6.1	7.7	18.3	19.6	20.9	22.3	23.6	34.6	35.9	38.3	26 21.02	+ 0.11	20.33	6 26 41.46	— 11.38
	γ Geminorum	4	17.7	19.9	21.2	31.0	32.1	33.3	34.6	35.6	45.7	46.9	49.0	29 33.36	— 0.03	20.33	6 29 53.66	16.30
	Lacaille 2366	5	..	..	..	38.9	40.3	42.4	59.8	2.5	3.9	5.4	6.9	31 55.01	29.52	20.33	6 31 45.82	11.49
	Lacaille 2388	6	..	..	..	9.3	10.4	11.7	13.2	14.3	25.5	26.9	29.3	34 17.58	— 5.61	20.33	6 34 32.30	11.30
	O. Arg. S. 5574	7	12.7	14.9	16.1	27.3	28.3	29.7	31.0	32.3	43.3	44.6	47.0	37 29.75	+ 0.11	20.34	6 37 50.20	11.47
	O. Arg. S. 5665	8	24.0	26.4	27.6	38.6	39.6	41.1	42.4	43.6	54.7	56.0	58.5	40 41.14	+ 0.11	20.34	6 41 1.59	11.46
	* — 28° 34′	9	..	..	..	54.1	55.6	57.8	14.5	17.0	18.4	20.0	21.3	44 9.84	— 29.51	20.34	6 44 0.67	11.58
	O. Arg. S. 5745	10	30.8	32.9	34.4	44.7	45.8	47.1	48.4	49.4	..	..	..	43 41.69	+ 5.78	20.34	6 44 7.81	11.58
	O. Arg. S. 5906	11	19.4	21.6	22.9	33.9	34.9	36.4	37.8	38.9	50.0	52.2	53.6	49 36.51	0.11	20.35	6 49 56.97	11.59
	ε Canis Majoris	12	41.6	43.8	45.3	56.0	57.2	58.7	0.0	1.2	12.0	13.5	15.9	52 58.65	+ 0.11	20.35	6 53 9.11	11.64
	O. Arg. S. 6004	13	..	..	..	23.5	24.5	25.9	27.4	28.5	39.5	41.0	43.3	53 31.70	— 5.54	20.35	6 53 46.51	11.64
	* — 31° 0′	14	48.7	51.0	52.3	3.6	4.7	6.0	7.5	8.7	19.9	21.3	23.6	17 6.12	+ 0.12	20.37	7 17 26.61	11.58
	* — 31° 3′	15	44.3	46.6	48.0	59.2	0.4	1.7	3.2	4.3	15.5	16.9	19.4	18 1.77	+ 0.12	20.37	7 18 22.26	11.58
	a^1 Geminorum	16	54.7	56.5	57.9	59.2	2.0	..	12.9	15.7	17.2	18.6	20.3	25 37.50	— 0.36	20.38	7 25 57.52	18.28
	a^2 Geminorum	17	20.1	22.3	23.9	35.0	36.1	37.7	39.0	40.2	51.7	53.1	55.5	25 37.69	0.08	20.38	7 25 57.99	18.23
Y.	α Lyræ	18	39.9	42.5	44.2	56.3	57.5	59.1	0.5	2.0	14.3	15.7	18.4	31 59.13	— 0.01	20.67	18 32 19.79	7.82
	α Aquilæ	19	33.0	35.1	36.2	45.9	46.8	48.1	49.3	50.3	0.1	1.3	3.3	43 48.13	+ 0.01	20.70	19 44 8.84	11.81
13	Sun I	20	49.0	51.0	52.2	2.0	3.0	4.3	5.5	6.6	16.5	17.6	19.8	45 4.32	0.03	20.75	21 45 25.10	18.28
	Sun II	21	2.7	4.8	6.0	15.7	16.8	18.1	19.3	20.4	30.2	31.4	33.5	47 18.08	0.03	20.76	21 47 38.87	18.23
	α Pegasi	22	23.0	25.2	26.4	36.2	37.4	38.6	39.7	40.8	50.8	51.9	54.1	57 38.55	0.01	20.79	22 57 59.35	12.06
	Polaris	23	27.0	24.0	12.0	0.0	34.0	..	22.0	1.0	48.5	36.0	19.0	57 34.35	11 15.30	20.81	.. .. ..	.. ..
	η Piscium	24	37.0	39.1	40.4	50.2	51.1	52.4	53.6	54.7	4.7	5.9	8.0	23 52.46	0.01	20.85	1 24 13.32	13.55
R.	α Ceti	25	35.7	37.7	39.0	48.4	49.4	50.6	51.7	52.8	2.5	3.7	5.7	54 50.65	0.02	20.86	.. .. ..	13.65
	Moon I	26	38.9	40.9	42.3	52.5	53.6	54.9	56.0	57.2	7.6	8.9	11.0	56 54.89	0.01	20.86	2 57 15.76	.. ..
	δ Arietis	27	16.0	18.1	19.5	29.6	30.6	31.8	33.1	34.3	44.4	45.7	47.9	3 31.91	0.01	20.86	.. .. ..	15.04
	ζ Arietis	28	29.9	31.9	33.3	43.5	44.6	45.8	47.1	48.2	58.5	59.8	2.0	6 45.87	0.01	20.86	3 7 6.74	15.16
14	δ Arietis	29	15.5	17.6	18.8	28.9	30.0	31.2	32.5	33.6	43.9	45.1	47.2	3 31.30	0.01	21.46	.. .. ..	15.03
	ζ Arietis	30	29.3	31.5	32.8	43.0	43.9	45.2	46.4	47.6	57.9	59.2	1.4	6 45.29	0.01	21.47	3 7 6.77	15.15
	Moon I	31	0.4	2.4	3.7	14.2	15.3	16.4	17.8	18.9	29.4	30.6	32.7	52 16.51	0.01	21.48	3 52 38.00	.. ..
	δ^1 Tauri	32	30.3	32.2	33.7	43.6	44.7	46.0	47.2	48.3	58.3	59.5	1.8	14 45.96	0.01	21.49	4 15 7.46	15.54
	ε Tauri	33	5.4	7.3	8.5	18.6	19.7	21.0	22.2	23.3	33.5	34.8	37.0	20 21.03	0.01	21.50	.. .. ..	15.80
16	Sun I	34	29.7	31.7	33.0	42.5	43.6	44.9	46.2	47.3	57.1	58.4	0.4	56 44.98	0.05	22.47	21 57 7.50	.. ..
Y.	Sun II	35	42.7	44.8	46.0	55.7	56.8	58.0	59.3	0.3	10.0	11.4	13.4	58 58.04	0.05	22.47	21 59 20.56	.. ..
	α Pegasi	36	21.4	23.5	24.8	34.5	35.6	36.9	38.0	39.1	49.2	50.4	52.5	57 36.90	+ 0.01	22.49	22 57 59.40	12.06
	α Andromedæ	37	42.6	44.9	46.3	57.0	58.2	59.6	0.9	2.2	13.1	14.4	16.6	0 59.62	— 0.01	22.51	0 1 22.12	12.67
	Polaris	†38	..	..	..	16.0	56.0	48.0	36.0	17.0	..	..	..	8 46.60	0.50	22.53	.. .. ..	66.22
	ι Tauri	†39	21.3	23.6	24.9	35.1	36.0	37.4	38.7	39.9	50.3	51.6	53.6	54 37.49	0.04	22.60	4 55 0.05	16.31
	m Tauri	†40	48.4	50.4	51.7	1.8	3.0	4.2	5.4	6.5	16.7	17.9	20.0	59 4.18	0.03	22.60	4 59 26.75	16.02
	Lacaille 1753	41	..	..	..	1.4	2.6	4.0	5.3	6.5	17.4	18.8	20.8	7 9.60	5.45	22.60	5 7 26.75	11.12
	* — 27° 19′	42	..	..	..	..	..	..	42.0	44.6	46.2	47.6	49.1	7 45.90	37.74	22.60	5 7 30.76	11.12
	n Tauri	43	29.7	31.9	33.2	43.6	44.6	45.8	47.0	48.3	58.7	0.0	2.1	10 45.90	0.04	22.60	5 11 8.46	16.50
	β Tauri	44	4.4	6.8	8.1	18.9	20.0	21.3	22.7	23.9	34.8	36.2	38.5	17 21.42	0.06	22.60	5 17 43.96	17.40
	o Tauri	45	51.5	53.6	55.0	5.2	6.3	7.5	8.8	9.8	20.4	21.6	23.8	19 7.59	— 0.04	22.61	5 19 30.16	16.54
	O. Arg. S. 4060	46	51.6	53.9	55.0	5.8	6.9	8.2	9.4	10.6	21.2	22.5	25.0	27 8.19	+ 0.12	22.61	5 27 30.92	11.43
	O. Arg. S. 4163	47	16.3	18.5	19.8	30.6	31.7	33.2	34.5	35.6	46.5	47.8	50.2	31 33.15	0.13	22.61	5 31 55.89	11.14
	O. Arg. S. 4237	48	19.4	21.5	23.1	33.9	35.0	36.3	37.6	38.7	49.7	51.0	53.4	36 36.33	+ 0.13	22.61	5 36 59.07	11.19
	Moon I	†49	55.8	58.0	59.2	9.7	10.7	11.9	13.3	14.4	25.0	26.3	28.5	41 12.07	— 0.03	22.61	5 41 34.65	.. ..
	Lacaille 2033	50	6.0	8.4	9.7	20.7	21.9	23.3	24.5	25.8	36.7	38.1	40.5	46 23.24	+ 0.14	+22.61	5 46 45.99	— 11.02

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Feb. 13, 3.0	+ 20.86	+ 0.026	+ 0.020
14, 3.7	21.48	0.026	.. ..
16, 3.4	+ 22.57	+ 0.018	+ 0.030

2. Steady.
38. Very high wind.
39. Blurred; high wind blowing.
40. Blurred.
49. Unsteady.

February 12–13, 18h. to 4h. n = s. — 0.04.
14, ... — 0.04.
16, 21h. to 2h. — 0.09.
4h. to 7h. — 0.18.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 17	O. Arg. S. 4453	1	39.2	41.4	42.7	53.8	54.9	56.2	57.6	58.7	9.8	11.2	13.5	49 56.27	+ 0.13	22.61	5 50 19.01	— 11.11
Y.	χ^3 Orionis	2	48.2	50.3	51.5	.	2.6	3.8	5.0	. .	16.5	17.7	20.0	55 3.96	— 0.04	22.62	5 55 26.54	16.48
	ν Orionis	3	12.5	14.8	15.9	25.9	26.8	28.0	29.4	30.4	40.2	41.5	43.5	59 28.08	— 0.02	22.62	5 90 50.68	15.93
	δ Ursæ Minoris, S. P.	4	39.5	6.0	43.5	4.0	47.0	28.0	7.0	49.0	5.0	47.5	11.0	15 26.14	+ 2.52	22.62	. . . .	98.87
	O. Arg. S. 5704	5	52.1	54.4	55.6	6.3	7.4	8.6	10.0	11.2	22.0	23.3	25.5	42 8.76	0.12	22.63	6 42 31.51	11.77
	* — 30° 15′	6	17.7	19.9	21.3	32.5	33.6	34.9	36.3	37.5	48.6	50.0	52.3	46 34.96	0.14	22.63	6 46 57.73	11.35
	O. Arg. S. 5906	7	16.9	19.3	20.5	31.5	32.6	34.0	35.4	36.4	47.5	48.8	51.1	49 34.00	0.13	22.63	6 49 56.76	11.54
	ε Canis Majoris	8	39.4	41.5	42.9	53.9	55.0	56.3	57.6	58.9	10.0	11.3	13.6	52 56.40	0.13	22.63	6 53 19.16	— 11.58
17	δ Ursæ Minoris, S. P.	†9	. .	. .	. .	8.0	52.0	. .	. .	. .	. .	. .	. .	15 0.00	28.01	23.60	. . . .	+ 98.62
	γ Geminorum	†10	14.4	16.4	17.6	27.6	28.8	30.0	31.3	32.4	42.5	43.6	45.7	29 30.03	0.02	23.61	. . . .	— 16.24
	Moon I	†11	41.6	43.6	45.0	. .	. .	. .	. .	. .	. .	. .	. .	33 43.40	+ 14.32	23.61	6 34 21.33	.
18	δ Ursæ Minoris, S. P.	†12	40.0	8.0	46.0	. .	. .	. .	. .	. .	8.5	46.5	14.0	15 27.17	— 0.18	25.27	6 15 52.26	98.36
	γ Geminorum	†13	12.8	14.8	16.1	26.1	27.2	28.3	29.6	30.6	40.7	41.9	44.1	29 28.38	+ 0.04	25.29	6 29 53.71	16.23
	O. Arg. S. 5732	14	53.7	56.1	57.4	8.4	9.7	11.0	12.4	13.6	24.6	26.0	28.3	43 11.02	0.02	25.30	6 43 36.34	11.37
	O. Arg. S. 5863	15	29.0	31.1	32.5	43.3	44.6	45.9	47.1	48.4	59.4	0.7	3.0	47 45.91	0.02	25.31	6 48 11.24	11.56
	Lacaille 2544	16	16.1	18.2	19.6	30.0	31.1	32.3	33.7	34.8	45.4	46.6	48.8	52 32.42	+ 0.02	25.31	6 52 57.75	12.13
	Weisse (2) 1675	17	0.3	1.6	2.9	4.3	6.7	. .	11.0	13.6	14.9	16.2	17.8	55 38.93	— 0.21	25.32	6 56 4.04	16.77
	ζ Geminorum	18	23.6	25.7	27.0	37.2	38.3	39.6	40.8	41.8	52.2	53.7	55.6	55 39.59	+ 0.04	25.32	6 56 4.95	16.77
	λ Geminorum	19	38.0	40.1	41.4	51.3	52.4	53.6	54.8	56.0	6.0	7.1	9.3	9 53.64	+ 0.04	25.33	7 10 19.01	16.32
	Lalande 14620	20	. .	. .	. .	47.4	48.6	50.8	6.6	9.1	10.5	11.8	13.2	24 2.25	— 27.21	25.35	7 24 0.39	16.40
	Moon I	21	54.1	56.3	57.6	7.7	8.8	10.1	11.4	12.6	22.8	24.2	26.4	25 10.18	+ 0.04	25.35	7 25 35.57	. .
	α Canis Minoris	†22	32.9	34.9	36.2	45.7	46.8	48.0	49.2	50.2	59.8	0.9	3.1	31 47.97	0.03	25.36	7 32 13.36	15.01
	β Geminorum	23	19.6	22.2	23.5	34.3	35.4	36.7	38.0	39.3	50.3	51.4	53.9	36 36.78	+ 0.05	25.36	7 37 2.19	— 17.49
	λ Ursæ Minoris, S. P.	24	26.0	45.0	40.0	. .	. .	. .	. .	. .	11.5	8.0	23.5	58 25.67	— 0.64	25.39	7 58 50.42	+ 302.07
	ρ Argus	25	5.7	8.0	9.3	19.7	20.8	22.2	23.4	24.5	35.1	36.3	38.6	1 22.15	+ 0.02	25.39	8 1 47.56	— 12.67
	α Aquilæ	26	. .	. .	. .	54.7	56.0	58.0	13.3	15.8	12.1	18.5	19.8	44 9.15	— 26.28	. .	. . . .	11.92
19	Sun II	†27	. .	16.0	17.2	27.3	28.3	29.4	30.6	31.6	41.6	42.9	. .	10 29.43	+ 0.05	26.09	22 10 55.57	66.26
R.	α Andromedæ	†28	. .	. .	. .	53.3	54.4	55.9	57.2	58.4	9.2	10.6	13.0	1 1.50	— 5.60	26.16	0 1 22.06	12.65
	Polaris	29	18.0	15.0	0.0	49.0	26.0	. .	. .	. .	. .	. .	. .	46 9.60	+22 30.72	26.21	. . . .	64.20
	6 Canis Majoris	30	33.9	36.0	37.3	47.3	48.2	49.5	50.6	51.7	1.5	2.8	4.8	21 49.42	0.03	26.54	7 22 15.89	16.08
	68 Geminorum	31	11.0	13.0	14.6	24.4	25.5	26.7	28.0	29.0	38.8	40.0	42.3	25 26.66	+ 0.02	26.45	7 25 53.13	— 16.25
	λ Ursæ Minoris, S. P.	†32	24.0	43.0	38.0	. .	. .	. .	. .	. .	. .	. .	. .	9 55.00	—11 29.37	26.47	. . . .	+ 301.63
	Moon I	†33	30.5	32.6	33.8	43.9	44.8	45.9	47.4	48.8	58.9	0.1	2.1	14 46.25	+ 0.02	26.48	8 15 12.75	. .
	29 Cancri	34	20.5	24.6	25.9	35.6	. .	37.7	. .	40.2	50.1	51.3	53.6	20 37.72	0.00	26.48	8 21 4.20	— 16.06
	η Cancri	35	10.6	12.7	13.9	24.0	25.3	26.5	27.9	29.1	39.3	40.6	42.9	24 26.62	+ 0.02	26.48	8 24 53.12	16.63
	c^1 Cancri	36	4.0	6.1	7.3	. .	. .	. .	. .	. .	31.5	32.8	34.6	29 19.38	— 0.01	26.49	8 29 45.86	15.65
	ε Hydræ	37	55.4	57.5	58.7	8.1	9.1	10.3	11.6	12.8	22.3	23.4	25.7	39 10.45	+ 0.03	26.49	8 39 36.97	15.33
Y.	γ Aquilæ	38	5.4	7.5	8.8	18.5	19.4	20.7	21.9	23.0	33.7	34.0	35.9	39 20.81	+ 0.06	26.96	19 39 47.83	11.62
	Venus II	39	47.7	49.8	51.2	1.3	2.5	3.8	5.0	6.1	16.5	17.8	20.0	43 3.79	0.00	26.96	19 43 30.75	0.50
	α Aquilæ	40	. .	. .	. .	53.9	55.1	57.2	12.6	15.0	16.2	17.5	18.9	44 8.30	— 26.25	26.97	19 44 9.02	11.94
20	Sun I	41	51.0	53.0	54.1	3.8	5.0	6.1	7.3	8.4	18.3	19.6	21.6	12 6.20	+ 0.02	27.08	22 12 33.30	. .
	Sun II	42	3.2	5.2	6.6	16.3	17.3	18.4	19.6	20.8	30.6	31.7	33.8	14 18.50	0.02	27.08	22 14 45.60	. .
	α Andromedæ	43	37.8	40.2	41.4	52.3	53.3	54.7	56.0	57.3	8.3	9.6	11.8	0 54.79	0.11	27.17	0 1 22.07	12.64
	Polaris	†44	. .	. .	. .	59.0	40.0	31.0	20.0	3.0	. .	. .	. .	8 30.60	8.03	27.23	. . . .	63.48
	Moon	45	38.4	40.4	41.6	51.5	52.7	53.9	55.1	56.3	6.2	7.4	9.5	2 53.91	0.03	27.61	9 2 21.55	. .
	π^2 Cancri	46	2.6	4.7	6.0	15.8	16.9	18.1	19.2	20.4	30.5	31.7	33.7	7 18.15	0.03	27.62	9 7 45.80	15.98
	83 Cancri	47	42.4	44.5	45.8	55.9	56.9	58.1	59.3	0.5	10.7	11.9	14.1	10 58.19	0.03	27.63	9 11 25.85	16.14
	α Hydræ	48	14.0	16.1	17.3	27.0	28.0	29.2	30.3	31.3	41.0	42.2	44.4	20 29.16	0.05	27.63	9 20 56.84	14.41
	ξ Leonis	49	56.5	58.5	59.7	9.5	10.5	11.7	13.0	14.0	23.9	25.1	27.3	24 11.79	+ 0.03	+27.64	9 24 39.46	— 15.66

9. Too unsteady for observation.
10. Blurred and very unsteady.
11. Badly defined and vibrating.
12. Much blurred.
13. Excessively blurred.
22. Unsteady.
23. Unsteady.
27. Serrated and unsteady.
28. Unsteady.
32. Blurred and unsteady.
33. Badly defined and oscillating.
44. Unsteady.
45. Through clouds.

s.

February 17, n. = — 0.03.
18, + 0.02.
19, 22h. to 2h. — 0.02.
7h. to 9h. — 0.04.
19–20, 19h. to 2h. + 0.11.
20, 9h. to 10h. — 0.04.

r.

February 18, 8h. 20m. Image east 0.04. Clamp east.
February 20. Stars observed through clouds.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Feb. 17, 6.5	+ 23.61	+ 0.054	+ 0.030
18, 7.4	25.35	0.070	. .
19, 5.7	26.38	0.038	0.035
20, 4.2	+ 27.38	+ 0.049	+ 0.040

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 20	10 Leonis	1	21.6	23.7	24.9	34.5	35.6	36.7	37.9	39.0	48.6	49.9	51.9	29 36.75	+ 0.03	+27.64	9 30 4.42	— 15.35
	ε Leonis	2	26.2	28.4	29.8	40.3	41.3	42.7	44.0	45.2	55.8	57.0	59.3	37 42.73	0.02	27.64	9 38 10.39	16.47
Y.	μ Leonis	3	19.7	22.0	23.4	34.0	35.1	36.5	37.8	39.0	49.8	51.1	53.4	44 36.53	0.02	27.65	9 45 4.20	16.49
22	π Leonis	4	19.7	21.8	23.0	32.6	33.6	34.8	36.0	37.1	46.8	48.0	50.0	52 34.87	+ 0.03	29.24	9 53 4.14	15.36
R.	14 Sextantis	5	58.9	1.0	2.3	11.9	12.8	14.0	15.1	16.2	..	..	..	59 9.02	+ 5.06	29.25	9 59 43.33	15.23
	a Leonis	6	..	..	..	53.1	54.4	56.5	12.0	14.3	15.8	17.0	18.4	1 7.69	— 26.63	29.25	10 1 10.31	15.49
	Moon II	7	58.5	0.6	1.8	11.4	12.6	13.7	14.9	16.0	25.9	27.1	29.1	38 13.78	+ 0.04	29.27	10 38 43.09	..
	l Leonis	8	24.4	26.5	27.6	37.4	38.5	39.7	41.0	42.0	51.8	52.9	55.0	41 39.71	0.03	29.27	10 42 9.01	15.26
	χ Leonis	9	18.2	20.1	21.4	31.0	32.0	33.2	34.5	35.6	45.4	46.5	48.6	57 33.32	0.03	29.28	10 58 12.63	15.00
	p^5 Leonis	10	6.1	8.0	9.5	18.9	19.9	21.0	22.2	23.3	32.9	34.0	36.2	6 21.09	0.04	29.28	11 6 50.41	14.90
Y.	a Aquilæ	11	24.3	26.3	27.6	37.1	38.1	39.4	40.6	41.6	51.5	52.7	54.8	43 39.45	0.04	29.59	..	12.00
	Venus II	†12	6.9	8.9	10.3	20.4	21.5	22.7	24.0	25.1	35.3	36.6	38.9	58 22.78	0.06	29.59	19 58 52.43	0.49
	Mercury II	†13	35.0	37.0	38.3	..	..	..	..	..	3.5	4.6	6.7	42 50.85	0.02	29.61	20 43 20.48	0.23
23	Sun I	†14	15.6	17.7	18.8	..	..	..	..	..	42.8	43.8	46.1	23 30.80	0.01	29.66	22 24 0.47	..
	Sun II	†15	27.4	29.4	30.6	40.4	41.4	42.5	43.7	44.9	54.8	56.0	58.0	25 42.65	0.05	29.66	22 26 12.36	..
	Polaris	†16	28.0	45.0	36.0	..	42.0	32.0	20.0	2.0	..	..	..	4 55.00	3 38.89	29.73	..	61.34
	a Arietis	17	45.6	47.8	49.1	59.4	0.5	1.7	3.0	4.2	14.7	16.0	18.2	59 1.84	0.03	29.76	..	14.33
R.	a Aquilæ	18	23.8	25.9	27.1	36.6	37.7	38.8	40.1	41.2	50.9	52.1	54.1	43 38.94	+ 0.03	30.16	..	12.02
	Venus II	†19	..	..	..	..	..	..	0.6	3.3	4.5	5.9	7.3	4 4.32	— 35.86	30.17	20 3 58.63	0.49
24	Sun I	†20	41.8	43.1	44.5	45.6	48.0	3.1	5.0	6.4	..	..	..	26 52.19	+ 26.18	30.23	22 27 48.60	..
	Sun II	†21	53.4	54.7	56.0	57.1	59.5	14.7	16.6	18.0	41.9	43.1	45.3	29 14.57	15.37	30.23	22 30 0.17	..
	a Andromedæ	22	11.0	12.5	13.8	15.2	17.8	..	..	..	..	..	..	0 14.06	37.70	30.27	0 1 22.03	12.62
	B. A. C. 3096	23	26.8	29.0	30.5	41.2	42.0	43.3	44.8	46.0	56.6	58.0	0.0	56 43.47	0.12	30.50	8 57 14.09	13.11
	κ Cancri	24	39.6	41.5	42.9	52.6	53.5	54.7	55.9	57.0	6.8	8.0	10.2	59 54.79	0.02	30.51	9 0 25.32	15.66
	* — 27° 46′	25	14.5	16.6	18.1	28.7	29.8	31.4	32.7	34.1	44.8	46.2	48.6	5 31.41	+ 0.13	30.51	9 6 2.05	13.08
	O. Arg. S. 9522	26	17.1	19.6	20.7	..	..	..	8.0	10.7	11.9	13.3	14.9	9 52.02	— 17.85	30.51	9 10 4.68	13.14
	O. Arg. S. 9600	†27	19.3	21.4	22.7	33.6	34.8	36.0	37.4	38.5	49.4	50.7	52.8	13 36.05	+ 0.13	30.51	9 14 6.69	13.16
	v Leonis	28	15.9	18.0	19.3	28.7	29.9	31.0	32.2	33.2	42.8	44.0	45.8	29 30.99	0.05	30.57	11 30 1.61	14.87
	v Virginis	29	8.9	10.8	12.3	21.8	22.8	24.0	25.3	26.4	35.9	37.2	39.1	38 24.05	0.02	30.57	11 38 54.64	14.89
	β Virginis	30	53.6	55.6	56.7	6.3	7.4	8.6	9.8	10.8	20.3	21.5	23.7	43 8.57	0.04	30.58	11 43 39.19	14.85
	Moon II	31	0.1	2.0	3.2	13.3	14.3	15.5	16.7	17.6	27.2	28.6	30.7	11 15.38	0.06	30.59	12 11 46.03	..
	η Virginis	32	41.2	42.8	43.9	45.0	47.6	2.5	4.5	5.8	..	..	..	25 51.66	+ 26.66	30.59	12 26 48.31	14.91
	β Corvi	33	..	..	..	59.7	1.0	3.2	19.7	22.4	23.6	24.9	26.5	27 15.12	— 28.07	30.60	12 27 17.65	15.25
	χ Virginis	34	30.4	32.4	33.8	43.2	44.4	45.4	46.8	48.0	57.3	58.6	0.6	31 45.54	+ 0.07	30.60	12 32 16.21	14.88
	Polaris, S. P.	†35	56.0	15.0	30.0	41.0	42.0	..	..	..	..	..	..	45 36.80	22 55.16	30.60	..	..
25	Lacaille 5013	36	10.8	13.2	14.5	26.3	27.4	28.8	30.3	31.5	43.2	44.9	47.6	58 28.95	0.15	31.58	11 59 0.68	15.30
Y.	ε Corvi	37	23.0	25.2	26.5	36.7	37.8	39.1	40.3	41.4	51.9	53.2	55.3	2 39.13	0.11	31.59	12 3 10.83	15.08
	* — 25° 48′	38	11.7	14.2	15.4	25.9	27.2	28.4	29.6	30.8	41.5	43.0	45.1	8 28.44	0.12	31.59	12 9 0.15	15.20
	* — 25° 50′	39	3.0	5.2	6.6	17.0	18.1	19.5	20.7	22.0	32.8	34.0	36.3	9 19.56	0.12	31.59	12 9 51.27	15.21
	O. Arg. S. 12082	40	5.7	8.1	9.4	20.0	21.1	22.4	23.7	25.0	35.7	37.0	39.2	12 22.48	0.12	31.59	12 12 54.19	15.25
	O. Arg. S. 12116	41	37.0	39.1	40.6	51.0	52.0	53.4	54.6	55.7	6.4	7.6	9.8	14 53.38	0.11	31.59	12 15 25.08	15.11
	Lalande 23198	42	12.9	15.0	16.4	27.1	28.2	29.5	30.7	31.9	42.5	43.8	46.2	16 29.47	0.12	31.59	12 17 1.18	15.27
	Lacaille 5143	43	24.3	26.7	27.9	38.4	39.6	40.9	42.2	43.3	54.0	55.2	57.4	17 40.90	0.12	31.59	12 18 12.61	15.28
	η Virginis	44	1.4	3.4	4.6	14.3	15.3	16.6	17.8	18.7	28.6	29.8	31.7	26 16.56	+ 0.07	31.60	12 26 48.23	14.92
	β Corvi	45	..	..	..	58.7	59.9	2.2	18.6	21.1	22.5	23.9	25.3	27 14.02	— 28.08	31.60	12 27 17.54	15.26
	χ Virginis	46	29.5	31.5	32.7	42.2	43.2	44.4	45.6	46.6	56.5	57.7	59.7	31 44.51	+ 0.07	31.60	12 32 16.18	14.89
	* — 40° 35′	47	17.7	20.3	22.0	34.3	35.7	37.4	38.9	40.3	53.0	54.7	57.2	35 37.41	0.18	31.60	12 36 9.19	16.15
	Lacaille 5278	48	39.4	41.9	43.4	54.6	55.8	57.3	58.6	59.8	11.3	12.7	15.1	38 57.26	0.14	31.60	12 39 29.00	15.78
	O. Arg. S. 12460	49	8.6	11.0	12.1	22.4	23.6	24.9	26.4	27.5	38.3	39.4	41.6	42 25.07	0.12	31.60	12 42 56.79	15.49
	ψ Virginis	50	32.7	34.6	35.9	45.6	46.6	47.8	49.0	50.0	59.8	0.9	3.0	46 47.81	+ 0.07	+31.61	12 47 19.49	— 14.94

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Feb. 22, 10.4	+ 29.26	+ 0.033	+ 0.040
22.8	29.67	0.027	0.045
24, 5.7	30.42	0.026	0.045
25, 12.9	+ 31.61	+ 0.030	+ 0.050

12. Very unsteady.
13. Very faint.
14. Very unsteady.
15. More steady.
16. Under clouds.
19. Through clouds and very unsteady.
20–21. Through clouds.
27. Stars faint and blurred.
35. Very unsteady.

		s.
February 22–23,	n. =	— 0.04.
23–24,	19h. to 1h.	0.08.
24,	8h. to 11h.	0.15.
	11h. to 13h.	0.18.
25–26,		— 0.13.

February 23. Observations made through clouds.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	h. m.	m. s.	s.	h. m. s.	s.
Feb. 25	O. Arg. S. 12573	1	10.6	12.8	14.1	24.6	25.6	27.0	28.1	29.2	39.8	41.1	43.3	52 26.93	+ 0.11	−31.61	12 52 58.65	− 15.48
Y.	O. Arg. S. 12615	2	46.4	48.6	50.0	0.5	1.7	3.0	4.1	5.2	16.0	17.2	19.6	56 2.94	0.12	31.61	12 56 34.67	15.60
	Moon II	3	3.1	5.1	6.3	16.2	17.3	18.4	19.7	20.8	30.8	32.1	34.1	59 18.54	0.07	31.61	12 59 50.22	- -
	ϑ Virginis	4	10.3	12.5	13.6	23.2	24.1	25.4	26.5	27.5	37.2	38.4	40.4	2 25.37	0.06	31.61	13 2 57.04	14.79
	Polaris, S. P.	†5	- -	- -	- -	55.0	15.5	24.5	36.0	56.5	- -	- -	-	8 25.50	5.19	31.62	- - - -	59.80
	α Virginis	6	17.4	19.4	20.7	30.4	31.5	32.6	33.8	34.9	44.6	45.9	48.0	17 32.65	0.08	31.62	13 18 4.35	15.01
	* — 34° 51′	7	51.5	53.8	55.3	7.0	8.2	9.5	11.0	12.4	24.2	25.5	28.0	21 9.67	0.15	31.62	13 21 41.44	16.43
	O. Arg. S. 12920	8	23.0	25.2	26.6	37.7	39.8	40.3	41.5	42.8	54.0	55.3	57.7	23 40.35	0.13	31.62	13 24 12.10	16.14
	ζ Virginis	9	1.6	3.7	4.7	14.3	15.3	16.4	17.6	18.7	28.4	29.5	31.6	27 16.53	+ 0.05	31.63	13 27 48.21	− 14.46
	δ Ursæ Minoris	10	- -	- -	- -	42.5	3.0	37.0	53.0	34.0	54.0	16.0	38.5	22 42.25	− 7 20.17	31.66	18 15 53.74	+ 95.98
	α Lyræ	11	- -	- -	- -	45.6	46.9	48.5	49.9	51.3	3.5	5.1	7.7	31 54.81	− 6.39	31.67	18 32 20.09	− 8.20
R.	Venus II	12	21.2	23.3	24.6	34.7	35.6	36.9	38.3	39.4	49.6	51.0	53.1	13 37.06	+ 0.10	31.73	20 14 8.89	0.49
	Sun I	13	35.5	37.5	38.6	48.5	49.5	50.6	52.0	52.9	2.8	3.8	6.0	34 50.70	0.07	31.80	22 35 22.57	- -
	Sun II	14	47.0	48.8	50.2	59.7	0.7	1.9	3.2	4.2	- -	- -	- -	36 56.96	+ 5.13	31.80	22 37 33.89	- -
	α Andromedæ	15	33.4	35.6	36.9	47.7	48.8	50.1	51.5	52.7	3.7	4.9	7.2	0 50.23	− 0.01	31.85	0 1 22.07	− 12.61
	Polaris	†16	- -	- -	- -	2.0	42.0	30.0	21.0	2.0	- -	- -	- -	8 31.40	− 1.33	31.88	1 9 1.95	- -
N.	Uranus I	17	38.5	39.8	41.2	42.4	45.1	- -	- -	- -	- -	- -	- -	19 41.40	+ 36.12	31.88	5 20 49.40	+ 0.12
	Uranus	18	1.3	3.5	4.8	15.3	16.3	17.7	19.0	20.0	30.7	32.0	34.1	20 17.70	0.00	31.88	5 20 49.58	- -
	Uranus II	19	- -	- -	- -	- -	- -	- -	50.7	53.4	54.7	56.0	57.6	20 54.48	− 36.63	31.88	5 20 49.73	− 0.12
	δ Orionis	20	18.4	20.3	21.6	31.0	32.1	33.3	34.5	35.7	45.1	46.4	48.4	24 33.35	+ 0.05	31.88	- - - -	13.96
26	ε Orionis	21	33.6	35.6	36.9	46.4	47.5	48.6	49.7	50.8	0.5	1.6	3.6	28 48.62	+ 0.05	31.88	- - - -	- -
R.	Polaris, S. P.	†22	51.0	52.0	1.0	13.0	- -	- -	- -	- -	- -	- -	- -	31 29.25	−23 0.73	32.28	13 9 0.80	59.27
	η Bootis	23	26.4	28.5	29.8	39.8	41.0	42.2	43.5	44.6	54.8	56.0	58.2	47 42.25	+ 0.01	32.29	13 48 14.55	13.47
	Moon II	24	2.0	4.1	5.5	15.4	16.5	17.8	19.2	20.2	30.1	31.3	33.5	49 17.78	0.08	32.29	13 49 50.15	- -
	τ Virginis	25	58.4	0.4	1.8	11.2	12.2	13.2	14.5	15.6	25.3	26.4	28.4	54 13.40	0.05	32.29	13 54 45.74	14.35
	94 Virginis	26	20.7	22.7	23.8	34.4	34.4	35.7	36.9	38.0	47.8	48.9	51.0	58 35.75	0.07	32.30	13 59 8.12	14.91
	κ Virginis	27	53.4	55.4	56.7	6.3	7.4	8.7	9.8	10.8	20.6	21.8	23.7	5 8.60	0.07	32.30	14 5 40.97	14.99
	α Bootis	28	41.3	43.3	44.7	54.8	55.8	57.2	58.4	59.6	9.7	10.9	13.4	8 57.19	0.01	32.30	14 9 29.50	12.84
	λ Virginis	29	59.9	1.9	3.1	12.8	14.0	15.2	16.4	17.5	27.5	28.5	30.6	11 15.22	+ 0.08	32.30	14 11 47.60	15.19
	* — 27° 29′	30	- -	- -	- -	47.6	48.6	49.8	50.2	52.4	3.0	4.5	6.8	16 55.36	− 5.47	32.31	14 17 22.20	16.33
	O. Arg. S. 13629	31	- -	- -	- -	2.9	4.0	5.3	6.6	7.8	18.7	20.2	22.2	19 10.96	− 5.47	32.31	14 19 37.82	16.32
	O. Arg. S. 13647	32	54.0	56.2	57.5	8.0	9.2	10.6	11.8	13.0	24.1	25.3	27.6	20 10.66	+ 0.12	32.31	14 20 43.09	16.33
	ρ Bootis	33	10.1	12.0	13.9	24.9	26.0	27.5	28.8	30.1	41.4	42.8	45.3	25 27.53	− 0.02	32.31	14 25 59.82	12.09
Y.	γ Aquilæ	34	0.1	2.1	3.4	13.0	14.1	15.3	16.4	17.5	27.4	28.5	30.6	39 15.31	+ 0.06	32.62	19 39 47.99	11.77
	α Aquilæ	35	21.3	- -	24.7	34.3	35.3	36.5	37.7	38.8	48.5	- -	51.7	43 36.53	0.05	32.62	19 44 9.20	12.09
	Venus II	†36	24.4	26.3	27.6	37.7	38.8	40.0	41.4	42.4	52.8	54.0	56.3	18 40.15	0.06	32.65	20 19 12.86	0.49
	Mercury II	†37	- -	21.9	23.0	33.1	34.2	35.5	36.7	37.8	48.0	49.3	- -	3 35.50	0.07	32.68	21 4 8.25	0.22
27	Sun I	†38	20.6	22.6	23.8	33.4	34.5	35.8	37.0	37.9	47.7	49.0	50.9	38 35.75	0.06	32.76	22 39 8.57	- -
	Sun II	†39	31.5	33.4	34.8	44.5	45.6	46.8	47.8	48.9	58.8	0.0	2.0	40 46.74	0.06	32.76	22 41 19.56	- -
	Polaris	40	- -	40.0	30.0	- -	34.5	24.0	12.5	55.5	- -	- -	- -	5 52.75	2 35.75	32.87	- - - -	59.02
	α Orionis	†41	2.3	4.2	5.5	15.0	16.0	17.3	18.5	19.4	29.2	30.4	32.4	47 17.29	0.05	33.09	5 47 50.43	14.89
	δ Ursæ Minoris, S. P.	†42	45.0	- -	- -	- -	42.0	- -	- -	- -	52.0	- -	-	14 6.33	1 15.20	33.11	- - - -	- -
	ρ Bootis	43	8.8	11.2	12.7	23.7	24.8	26.4	27.7	28.9	40.1	41.5	43.9	25 26.34	0.00	33.50	14 25 59.84	12.11
	μ Virginis	44	7.2	9.2	10.5	20.1	21.0	22.2	23.4	24.4	34.1	35.3	37.4	35 22.25	0.06	33.51	14 35 55.82	14.64
	5 Libræ	45	41.1	43.2	44.5	54.2	55.4	56.6	57.8	58.9	8.9	10.1	12.2	37 56.63	0.09	33.51	14 38 30.23	15.37
	Moon II	46	30.7	32.6	34.1	44.2	45.3	46.6	47.9	48.9	59.4	0.6	2.8	41 46.65	+ 0.09	33.51	14 42 20.25	- -
	α Libræ	47	- -	- -	- -	47.8	48.8	50.0	51.3	52.4	2.4	3.7	5.7	42 55.26	− 5.05	33.51	14 43 23.72	15.37
	ξ^2 Libræ	48	36.8	38.8	40.0	49.8	50.8	51.9	53.2	54.2	4.0	5.1	7.3	48 51.99	+ 0.08	33.52	14 49 25.59	15.04
	20 Libræ	49	19.1	21.4	22.7	33.2	34.3	35.6	36.8	37.9	48.7	49.9	52.1	55 35.61	+ 0.11	33.52	14 56 9.24	16.20
	ψ Bootis	50	48.3	50.5	51.9	2.6	3.8	5.1	6.5	7.6	18.6	19.8	22.2	58 5.17	0.00	+33.52	14 58 38.69	− 11.89

5. Unsteady.
16. Very unsteady; wind violent.
22. Blurred.
36. Unsteady.
37. Faint.
38–39. Through clouds.
41–42. Through clouds.

s.
February 26–27, 19h. to 2h. n. = − 0.01.
27, 5h. to 7h. 0.06.
14h. to 16h. − 0.11.

r.
February 25, 1h. 40m. Image east 0.05. Clamp east.
Image west 0.19. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
Feb.	26, 8.5	+ 32.12	+ 0.032	+ 0.050
	27, 8.1	+ 33.20	+ 0.047	+ 0.055

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	IX.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 27	*i* Libræ	1	41.1	43.2	44.6	54.6	55.7	56.9	58.1	59.2	9.5	10.7	12.9	3 56.95	+ 0.10	+33.53	15 4 30.58	— 15.75
Y.	*β* Libræ	2	54.6	56.9	58.0	7.7	8.6	9.8	11.0	12.1	21.9	23.0	24.9	9 9.86	0.07	33.53	15 9 43.46	14.79
Mar. 1	*η* Ophiuchi	3	11.6	13.6	14.9	24.8	25.8	27.1	28.2	29.4	39.5	40.5	42.7	2 27.10	0.09	9.05	17 2 36.24	15.22
	A Ophiuchi, (1st *)	4	..	..	..	49.0	50.2	51.3	52.6	53.9	..	..	..	6 51.40	0.17	9.05	17 7 0.62	16.47
	A Ophiuchi, (2d *)	5	35.0	37.2	38.5	..	..	..	..	..	4.9	6.0	8.4	6 51.67	0.08	9.05	17 7 0.80	16.47
	θ Ophiuchi	†6	15.6	17.7	19.0	29.6	..	31.7	..	34.4	45.0	46.4	48.6	13 32.00	0.09	9.04	17 13 41.13	16.24
	α Ophiuchi	†7	13.9	16.0	17.2	26.9	27.8	28.9	30.2	31.3	41.2	42.5	44.6	28 29.14	0.04	9.03	17 28 38.21	12.14
	Moon II	8	9.9	12.1	13.3	24.2	25.3	26.6	27.8	29.0	39.5	40.8	43.0	36 26.50	0.19	9.03	17 36 35.63	..
	μ Herculis	9	43.0	45.2	46.5	57.4	58.5	59.9	1.4	2.7	13.3	14.9	17.0	40 59.98	0.01	9.02	17 41 9.01	10.09
R.	*α* Cygni	10	17.4	21.1	22.0	35.4	36.8	38.5	40.1	41.7	55.3	57.0	59.8	36 38.65	0.07	8.66	20 36 47.38	7.81
	Venus II	11	57.1	59.3	0.6	10.5	11.6	13.0	14.2	15.4	25.4	26.7	28.9	39 12.97	0.07	8.66	20 39 21.70	0.47
	Mercury II	12	52.8	54.9	56.3	6.1	7.3	8.5	9.7	10.9	21.0	22.2	24.3	27 8.55	0.07	8.65	21 27 17.27	0.21
2	Sun I	13	44.0	46.0	47.4	56.9	57.9	59.1	0.3	1.4	11.0	12.2	14.3	53 59.14	0.06	8.62	22 54 7.82	..
	Sun II	14	54.4	56.3	57.7	7.4	8.4	9.5	10.9	11.9	21.5	22.8	24.8	56 9.60	0.06	8.62	22 56 18.28	..
	α Andromedæ	15	56.4	58.6	0.0	10.7	12.0	13.3	14.7	15.9	26.9	28.1	30.5	1 13.37	0.06	8.61	0 1 22.04	12.60
	Polaris	16	43.0	1.0	52.0	18.0	58.5	46.0	36.0	18.0	49.5	37.5	0.0	8 49.05	2.03	8.59	.. ..	57.25
	Lacaille 2741	17	37.5	39.6	40.9	51.5	52.7	54.0	55.4	56.5	7.4	8.7	11.0	14 54.11	+ 0.14	8.50	7 15 2.75	11.81
	O. Arg. S. 6748	18	42.2	43.7	45.1	46.5	49.2	..	57.7	0.4	1.8	3.4	4.8	18 23.48	— 0.12	8.50	7 18 31.86	11.54
	η Canis Majoris	19	19.3	21.6	22.9	33.9	35.0	36.4	37.8	39.0	49.9	51.2	53.6	18 36.42	+ 0.15	8.50	7 18 45.07	11.55
	a^1 Geminorum	20	6.2	8.0	9.3	10.7	13.4	..	24.7	27.5	28.7	30.4	32.0	25 49.09	— 0.30	8.50	7 25 57.29	18.02
	a^2 Geminorum	21	31.7	34.0	35.5	46.7	47.8	49.1	0.5	1.9	3.4	4.7	7.2	25 49.32	— 0.02	8.50	7 25 57.80	18.03
	O. Arg. S. 7131	22	9.6	11.8	13.2	23.8	24.9	26.4	27.6	28.8	39.7	41.0	43.2	31 26.36	+ 0.14	8.50	7 31 35.00	11.90
	* — 29° 52′	23	..	..	..	44.7	45.9	48.1	5.7	8.5	9.8	11.4	12.7	34 0.85	— 38.65	8.50	7 33 30.70	11.61
	O. Arg. S. 7224	24	18.6	20.7	22.3	33.1	34.4	35.8	37.2	38.4	49.6	50.8	53.1	34 35.82	+ 0.15	8.50	7 34 44.47	11.62
	* — 23° 54′	25	27.9	29.3	30.6	31.9	34.5	..	39.7	42.4	43.7	45.0	46.4	40 7.14	— 0.13	8.49	7 40 15.50	12.33
	* — 23° 46′	26	53.5	55.6	56.8	7.4	8.3	9.7	10.9	12.0	22.6	23.9	26.0	40 9.70	+ 0.13	8.49	7 40 18.32	12.34
	φ Geminorum	27	47.4	49.8	51.2	1.8	2.9	4.3	5.7	6.8	17.7	18.8	21.3	45 4.34	0.00	8.49	7 45 12.83	17.37
	6 Cancri	28	46.8	49.1	50.5	1.4	2.5	3.8	5.0	6.3	17.3	18.6	21.0	55 3.85	— 0.01	8.49	7 55 12.33	— 17.45
	λ Ursæ Minoris, S. P.	29	..	..	..	42.0	56.0	50.0	48.0	51.0	..	..	..	58 49.40	+ 1.69	8.49	.. ..	+ 293.72
	δ Ursæ Minoris	30	34.5	7.5	29.0	7.5	25.0	45.0	6.0	23.5	5.5	26.0	0.5	15 46.36	1.18	8.30	18 15 55.84	+ 94.02
	α Lyræ	31	52.7	54.2	56.8	9.0	10.3	11.8	13.3	14.6	27.0	28.5	31.2	32 11.86	0.08	8.30	18 32 20.24	— 8.38
	Moon II	32	18.3	20.4	21.9	32.2	33.4	34.6	36.0	37.1	47.9	49.0	51.2	38 34.73	0.06	8.30	18 38 43.09	..
	β Lyræ	33	37.8	40.0	41.5	52.8	54.0	55.4	56.9	58.1	9.7	11.0	13.5	44 55.52	0.08	8.30	18 45 3.90	9.18
Y.	*α* Aquilæ	34	45.8	47.8	49.1	58.6	59.7	0.9	2.0	3.1	12.9	14.2	16.2	44 0.94	0.06	8.33	19 44 9.33	12.20
	Venus II	35	57.8	59.9	1.3	11.2	12.3	13.7	14.9	15.9	25.9	27.3	29.5	44 13.61	0.06	8.34	20 44 22.01	0.47
	β Cephei	36	59.2	4.8	8.8	36.2	39.2	42.6	46.0	49.0	17.4	20.7	26.6	26 42.77	0.21	8.34	21 26 51.32	0.89
	Mercury II	37	35.5	37.6	38.9	48.9	50.0	51.2	52.5	53.5	3.5	4.9	7.0	31 51.23	0.06	8.34	21 31 59.63	0.21
	ε Pegasi	38	7.0	8.9	10.2	19.9	20.9	22.1	23.3	24.4	34.2	35.4	37.5	37 22.16	0.06	8.34	21 37 30.56	11.99
3	Sun I	39	28.0	30.0	31.2	..	..	..	..	..	55.0	56.1	58.1	57 43.07	0.02	8.36	22 57 51.45	..
	Sun II	40	38.2	40.3	41.5	51.2	52.2	53.3	54.5	55.5	5.3	6.5	8.5	59 53.36	0.06	8.36	23 0 1.78	..
	α Andromedæ	†41	..	58.7	0.2	11.2	12.2	13.5	14.8	16.0	27.2	28.5	..	1 13.59	0.08	8.37	0 1 22.04	12.60
	Polaris	†42	39.5	2.0	50.0	14.0	54.0	45.0	33.0	15.0	48.0	37.0	59.0	8 46.95	2.85	8.38	1 8 58.18	56.76
	α Orionis	43	26.8	29.0	30.2	39.7	40.7	41.9	43.2	44.2	53.9	55.1	57.0	47 41.97	+ 0.05	8.43	5 47 50.45	14.81
	O. Arg. S. 4474	44	..	..	..	47.4	48.6	50.9	8.3	11.0	12.4	13.9	15.4	52 3.49	— 29.56	8.43	5 51 42.36	10.82
	O. Arg. S. 4527	45	22.3	24.6	26.0	37.0	38.0	39.4	40.7	41.9	53.1	54.4	56.6	54 39.45	+ 0.12	8.43	5 54 48.00	10 78
	* — 28° 36′	46	30.0	31.5	32.8	34.2	36.9	..	45.4	48.1	49.4	50.8	52.4	59 11.15	— 0.15	8.43	5 59 19.43	10.90
	* — 28° 37′	47	56.3	58.6	0.1	10.7	11.9	13.2	14.6	15.8	26.9	28.3	30.5	59 13.35	+ 0.12	8.43	5 59 21.90	10.90
	δ Ursæ Min., S. P.	48	53.5	31.0	9.5	51.0	10.5	..	18.5	38.0	16.0	54.5	32.5	15 45.41	2.58	8.43	.. ..	93.87
			59.5	26.7	4.5	24.5	8.5	47.7	28.0	10.5	27.7	7.5	33.5					
	51 Cephei	49	45.5	28.5	54.0	11.0	31.0	56.5	23.5	44.5	4.0	28.3	11.0	35 57.98	+ 0.83	+ 8.43	6 36 5.58	— 146.60

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
	h.	s.	s.	s.
Mar. 1,	17.5	+ 9.03	— 0.050	+ 0.060
2,	3.9	8.55	— 0.015	..
	18.6	8.30	+ 0.012	..
3,	1.2	8.38	+ 0.010	..
	11.5	+ 8.30	— 0.028	..

6–7. Unsteady.
41. Faint and unsteady.
42. Very unsteady.

		s.
March 1,	. . . n. =	— 0.10.
2,	22h. to 2h.	0.01.
	7h. to 8h.	— 0.14.
2–3,	18h. to 2h.	+ 0.01.
3,	5h. to 23h.	— 0.10.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 3	O. Arg. S. 5863	1	45.5	47.7	49.1	0.0	1.0	2.5	3.7	4.9	15.9	17.3	19.6	48 2.47	+ 0.12	+ 8.44	6 48 11.03	— 11.31
Y.	Lacaille 2549	2	31.1	33.4	34.8	45.8	46.9	48.4	49.7	50.9	2.2	3.6	5.8	52 48.42	+ 0.13	8.44	6 52 56.99	11.08
	Lacaille 2566	3	8.9	10.6	12.1	13.4	16.1	. .	26.2	29.1	30.4	32.0	33.4	54 51.22	— 0.15	8.44	6 54 59.51	11.06
	* — 30° 53′	4	37.9	40.0	41.5	52.6	53.8	55.2	56.6	57.9	9.1	10.5	12.8	54 55.26	+ 0.13	8.44	6 55 3.83	11.06
	γ Canis Majoris	5	14.3	16.3	17.6	27.5	28.5	29.7	31.0	32.0	42.0	43.3	45.4	57 29.78	0.09	8.44	6 57 38.31	12.85
	* — 29° 37′	6	33.5	36.0	37.4	48.3	49.4	50.8	52.2	53.4	4.4	5.8	8.1	12 50.85	0.13	8.43	7 12 59.41	11.40
	Lacaille 2753	7	16.7	19.0	20.5	31.7	32.9	34.3	35.7	36.9	48.4	49.7	52.2	15 34.36	0.13	8.43	7 15 42.92	11.11
	Lacaille 2763	8	35.0	37.2	38.7	50.0	51.1	52.6	54.0	55.3	6.6	8.0	10.3	16 52.62	+ 0.13	8.43	7 17 1.18	11.12
	* — 32° 18′	9	18.4	20.0	21.4	22.8	25.6	. .	36.7	39.5	41.0	42.5	44.0	17 1.19	— 0.15	8.43	7 17 9.47	11.12
	O. Arg. S. 6810	10	. .	. .	. .	. .	. .	. .	59.9	2.7	4.0	5.5	6.9	21 3.80	— 37.48	8.43	7 20 34.75	11.84
	Lacaille 2813	11	5.9	8.1	9.5	20.2	21.3	22.6	23.8	25.0	35.9	37.2	39.4	22 22.63	+ 0.12	8.43	7 22 31.18	11.85
	O. Arg. S. 6948	12	30.6	32.2	33.6	34.8	37.6	. .	45.5	48.2	49.6	51.0	52.5	25 11.56	— 0.15	8.43	7 25 19.84	11.74
	O. Arg. S. 6949	13	54.5	56.8	58.2	9.0	10.2	11.5	12.8	14.0	24.9	26.2	28.5	25 11.51	+ 0.12	8.43	7 25 20.06	11.74
	* — 29° 40′	14	24.5	26.0	27.5	28.8	31.5	. .	40.5	43.4	44.8	46.3	47.7	30 6.10	— 0.14	8.42	7 30 14.38	11.58
	* — 29° 44′	15	59.2	1.5	3.0	14.0	15.2	16.3	17.7	19.1	30.1	31.5	34.0	30 16.51	+ 0.13	8.42	7 30 25.06	11.58
	O. Arg. S. 7239	16	49.5	51.8	53.0	3.8	5.0	6.3	7.6	8.8	19.8	21.1	23.4	35 6.37	0.12	8.42	7 35 14.91	11.87
	Lacaille 2941	17	28.6	30.9	32.3	43.6	44.7	46.1	47.5	48.7	0.1	1.3	3.8	38 46.15	0.13	8.42	7 38 54.70	11.49
	O. Arg. S. 7464	18	. .	. .	. .	49.3	50.5	51.8	53.2	54.4	. .	. .	. .	42 51.84	0.17	8.41	7 43 0.42	12.05
	O. Arg. S. 7465	19	36.9	39.1	40.6	. .	. .	. .	. .	. .	6.9	8.2	10.4	42 53.68	0.08	8.41	7 43 2.17	12.06
	* — 26° 2′	20	3.4	5.5	6.8	17.4	18.5	19.9	21.2	22.5	33.1	34.5	36.7	47 19.95	0.12	8.41	7 47 28.48	12.17
	* — 25° 58′	†21	56.8	59.1	0.4	11.2	12.2	13.6	14.9	16.1	26.6	28.0	30.4	48 13.57	0.12	8.41	7 48 22.10	12.18
	O. Arg. S. 7758	22	39.8	42.1	43.4	54.2	55.3	56.5	57.9	59.1	9.8	11.2	13.5	52 56.62	+ 0.12	8.40	7 53 5.14	12.11
	6 Cancri	23	46.8	49.2	50.6	1.3	2.4	. .	5.2	6.4	17.3	18.8	21.0	55 3.90	0.00	8.40	7 55 12.30	— 17.44
	λ Ursæ Minoris, S. P.	24	.	. .	. .	46.0	56.0	53.0	51.0	. .	. .	. .	. .	59 21.50	— 29.42	8.40	. . . .	+ 292.96
	* — 26° 59′	25	29.0	31.3	32.6	43.3	44.4	45.6	47.0	48.3	59.2	0.5	2.7	8 45.81	+ 0.12	8.39	8 8 54.32	— 12.32
	Lacaille 3257	26	41.4	43.9	45.4	56.9	58.2	59.6	1.2	2.4	14.3	15.6	18.1	12 59.73	+ 0.14	8.39	8 13 8.26	11.54
	Lacaille 3267	27	. .	. .	. .	44.6	45.9	48.2	5.9	8.6	9.9	11.4	13.1	15 0.95	— 30.11	8.39	8 14 39.23	12.02
	* — 29° 13′	28	. .	. .	. .	50.6	51.9	53.2	54.6	55.8	6.8	8.2	10.5	16 58.95	— 5.56	8.39	8 17 1.78	12.20
	* — 26° 41′	29	11.3	13.6	14.8	25.6	26.6	28.0	29.2	30.3	41.2	42.4	44.8	20 27.98	+ 0.12	8.39	8 20 36.49	12.48
	* — 28° 12′	30	29.8	32.0	33.4	44.3	45.4	46.7	47.9	49.2	. .	. .	. .	22 41.09	5.78	8.39	8 22 55.26	12.37
	* — 28° 11′	31	3.1	5.4	6.7	17.6	18.7	20.0	21.4	22.6	33.6	35.0	37.3	23 20.13	+ 0.12	8.39	8 23 28.64	12.38
	Lacaille 3341	32	. .	. .	. .	39.6	40.9	43.1	0.3	3.0	4.4	5.8	7.4	23 55.56	— 29.41	8.39	8 23 34.54	12.37
	* — 23° 42′	33	5.0	7.3	8.6	19.0	20.1	21.5	22.7	23.9	34.4	35.7	37.7	27 21.45	+ 0.11	8.39	8 27 29.95	12.83
	O. Arg. S. 8776	34	3.0	5.1	6.4	16.9	17.9	19.2	20.5	21.7	32.4	33.6	35.7	31 19.31	0.11	8.38	8 31 27.80	12.86
	* — 31° 40′	†35	23.7	26.1	27.6	38.7	39.8	41.3	42.6	43.8	55.3	56.5	59.0	34 41.31	0.13	8.38	8 34 49.82	12.20
	* — 23° 42′	36	15.0	17.1	18.5	28.8	30.0	31.3	32.6	33.6	44.3	45.6	47.7	36 31.32	0.11	8.38	8 36 39.81	12.92
	* — 30° 28′	37	1.7	4.0	5.4	16.5	17.7	19.1	20.4	21.6	32.8	34.2	36.6	39 19.09	0.13	8.38	8 39 27.60	12.38
	O Arg. S 8993	38	10.6	12.9	14.2	25.0	26.1	27.4	28.8	29.9	40.8	42.1	44.4	41 27.47	0.12	8.38	8 41 35.97	12.69
	* — 27° 44′	39	34.0	36.2	37.7	48.5	49.5	50.9	52.3	53.4	4.3	5.5	8.0	43 50.94	0.12	8.38	8 43 59.44	12.68
	O. Arg. S. 9127	40	5.2	7.4	8.9	20.0	21.1	22.5	23.9	25.1	36.3	37.7	40.0	48 22.55	0.13	8.38	8 48 31.06	12.48
	O. Arg. S. 9154	41	33.8	36.0	37.5	. .	. .	. .	. .	. .	5.0	6.4	8.8	49 51.25	0.08	8.38	8 49 59.71	12.50
	O. Arg. S. 9155	42	. .	. .	. .	49.1	50.3	51.6	53.0	54.3	. .	. .	. .	49 51.66	+ 0.19	8.38	8 50 0.23	12.51
	Lacaille 3617	43	. .	. .	. .	17.9	19.3	21.6	39.3	42.2	43.6	45.2	46.7	53 34.48	— 30.36	8.37	8 53 12.49	12.49
	* — 26° 57′	44	. .	. .	. .	22.5	23.9	26.2	43.2	45.9	47.2	48.6	50.1	55 38.45	— 29.07	8.37	8 55 17.75	12.88
	κ Cancri	45	1.7	3.8	5.0	14.7	15.7	16.9	18.2	19.3	29.1	30.2	32.4	0 16.90	+ 0.04	8.37	9 0 25.31	15.63
	O. Arg. S. 9418	46	24.3	26.6	28.0	38.9	40.0	41.4	42.7	43.9	55.0	56.3	58.6	3 41.43	0.12	8.37	9 3 49.92	12.82
	Lacaille 3718	47	8.7	11.0	12.3	23.2	24.2	25.6	26.9	28.0	39.1	40.5	42.7	6 25.65	+ 0.12	8.37	9 6 34.14	12.92
	O. Arg. S. 9489	48	. .	. .	. .	1.8	3.2	5.4	22.5	25.2	26.6	28.0	29.6	8 17.79	— 29.21	8.37	9 7 56.95	13.00
	O. Arg. S. 9496	49	. .	. .	. .	. .	. .	. .	42.9	45.7	47.0	48.5	50.1	8 46.84	— 37.82	8.37	9 8 17.39	13.01
	83 Cancri	50	1.9	3.8	5.1	15.1	16.1	17.4	18.7	19.8	30.0	31.3	33.5	11 17.52	+ 0.03	+ 8.36	9 11 25.91	— 16.10

21. Several stars in the field.
35. Duplex; companion very faint.

March 3, 12h. Image east 0.17. Clamp east.
Fine night; stars steady.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
March 3,	11.5	+ 8.30	— 0.028	+ 0.060
	20.6	+ 8.18	— 0.028	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 3	O. Arg. S. 11394	1	13.8	16.0	17.3	27.6	28.7	29.9	31.2	32.3	42.9	44.0	46.2	20 29.99	+ 0.11	+ 8.31	11 20 38.41	— 14.78
Y.	O. Arg. S. 11410	2	15.8	17.9	19.2	39.6	30.7	32.0	33.2	34.4	44.8	46.1	48.4	21 32.00	0.11	8.31	11 21 40.42	14.79
	O. Arg. S. 11444	3	53.4	55.5	57.0	7.4	8.6	9.9	11.2	12.4	23.1	24.3	26.5	24 9.94	+ 0.12	8.30	11 24 18.36	14.81
	Lacaille 4777	4	- -	- -	- -	4.7	6.0	7.5	9.0	10.2	22.2	23.5	25.9	26 13.62	— 5.94	8.30	11 26 15.98	14.86
	* — 35° 26′	5	16.3	18.9	20.3	32.0	33.3	34.6	36.2	37.5	49.1	50.7	53.2	27 34.74	+ 0.14	8.30	11 27 43.18	14.88
	ν Leonis	6	- -	- -	- -	5.2	6.6	8.5	23.8	26.1	27.4	28.7	29.8	30 19.51	— 25.96	8.30	11 30 1.85	14.95
	* — 27 43′	7	6.5	8.7	10.0	20.9	21.9	23.3	24.6	25.8	36.8	38.1	40.3	33 23.35	+ 0.12	8.30	11 33 31.77	14.93
	β Leonis	8	46.0	48.1	49.5	59.2	0.2	1.4	2.7	3.9	13.9	15.0	17.1	42 1.55	0.03	8.29	11 42 9.87	14.87
	Iris	9	7.2	9.1	10.4	20.0	21.0	22.2	23.5	24.5	34.1	35.3	37.4	46 22.25	+ 0.07	8.29	11 46 30.61	- -
	B. A. C. 4070	10	4.0	35.0	53.5	22.0	37.0	- -	15.0	32.0	2.0	21.0	52.0	57 57.35	— 0.72	8.29	11 58 4.92	27.97
	Moon II	†11	47.6	49.8	51.0	1.4	2.5	3.7	5.0	6.1	16.4	17.7	19.9	41 3.74	+ 0.09	8.07	19 41 11.90	- -
	α Aquilæ	12	46.0	48.0	49.3	58.9	59.9	1.2	2.4	3.5	13.2	14.3	16.4	44 1.19	+ 0.06	8.07	19 44 9.32	12.23
R.	α Cygni	13	18.1	21.0	22.9	36.4	37.5	39.0	40.9	42.3	55.9	57.6	0.5	36 39.28	— 0.02	8.18	- - - -	7.86
	Venus II	14	57.6	59.5	0.9	10.9	12.0	13.3	14.5	15.7	25.8	27.0	29.3	49 13.32	+ 0.09	8.17	20 49 21.58	— 0.46
4	Sun I	15	11.6	13.4	14.8	24.3	25.3	26.3	27.5	28.7	38.4	39.6	41.7	1 26.51	0.07	8.11	23 1 34.69	- -
	Sun II	16	21.7	23.8	25.1	34.7	35.6	36.8	38.0	39.0	48.7	50.0	52.0	3 36.85	+ 0.07	8.11	23 3 45.03	- -
5	λ Ursæ Minoris, S. P.	17	6.0	51.0	49.0	- -	- -	- -	- -	- -	- -	- -	- -	28 55.33	—30 0.20	7.41	- - - -	+ 290.98
Y.	* — 30° 45′	18	10.0	12.4	13.8	25.0	26.1	27.5	28.8	30.0	41.2	42.4	45.0	47 27.47	+ 0.20	7.37	8 47 35.04	— 12.45
	O. Arg. S. 9127	19	5.8	8.1	9.6	20.7	21.8	23.3	24.7	25.9	37.1	38.5	40.9	48 23.31	+ 0.20	7.37	8 48 30.88	12.46
	O. Arg. S. 9154	20	10.3	12.8	13.2	14.5	17.3	- -	27.2	30.0	31.4	32.9	34.4	49 52.40	— 0.08	7.37	8 49 59.69	12.47
	O. Arg. S. 9155	21	35.2	37.5	38.8	50.0	51.1	52.4	53.8	55.1	6.2	7.7	10.6	49 52.53	+ 0.20	7.37	8 50 0.10	12.48
	O. Arg. S. 9243	22	31.7	33.8	35.1	45.6	46.6	47.9	49.2	50.3	0.9	2.2	4.3	54 47.96	0.16	7.36	8 54 55.48	13.12
	κ Cancri	23	2.7	4.8	5.9	15.6	16.6	17.9	19.0	20.0	30.0	31.1	33.2	0 17.89	0.02	7.36	9 0 25.27	15.61
	O. Arg. S. 9418	24	25.1	27.4	28.7	39.7	40.8	42.2	43.6	44.7	55.7	57.2	59.6	3 42.25	0.19	7.36	9 3 49.80	12.80
	Lacaille 3718	25	9.5	11.7	13.0	24.0	25.0	26.5	27.8	29.0	40.0	41.2	43.6	6 26.48	+ 0.19	7.35	9 6 34.02	12.90
	O. Arg. S. 9489	26	- -	- -	- -	- -	- -	- -	23.3	26.0	27.4	29.0	30.4	8 27.22	— 37.77	7.35	9 7 56.80	12.98
	O. Arg. S. 9496	27	7.3	8.5	9.7	10.9	12.3	- -	43.9	46.5	48.0	49.3	50.8	8 28.72	— 18.77	7.35	9 8 17.30	12.99
	* — 28° 23′	28	31.9	34.2	35.5	46.4	47.5	49.0	50.2	51.6	2.5	3.7	5.9	11 48.95	+ 0.19	7.35	9 11 56.49	12.96
	O. Arg. S. 9615	29	3.8	5.2	6.5	8.0	10.5	- -	19.2	21.8	23.2	24.7	26.1	14 44.90	— 0.08	7.35	9 14 52.17	12.99
	* — 28° 39′	30	- -	- -	- -	26.0	27.2	28.5	29.9	31.0	42.1	43.4	45.7	14 34.22	5.45	7.35	9 14 36.12	13.00
	O. Arg. S. 9652	31	- -	- -	- -	- -	- -	- -	27.6	30.4	31.7	33.2	34.8	17 31.54	38.61	7.34	9 17 0.27	12.94
	O. Arg. S. 9661	32	- -	- -	- -	- -	- -	- -	53.4	56.2	57.7	59.1	0.5	17 57.38	— 38.61	7.34	9 17 26.11	12.96
	* — 27° 47′	33	21.0	23.4	24.7	35.3	36.5	37.8	39.0	40.3	51.4	52.6	54.8	20 37.89	+ 0.19	7.34	9 20 45.42	13.14
	Lacaille 3864	34	38.3	40.5	41.9	52.7	53.9	55.3	56.5	57.7	8.6	9.9	12.2	23 55.23	0.19	7.34	9 24 2.76	13.19
	O. Arg. S. 9903	35	42.1	44.2	45.6	55.8	56.9	58.0	59.2	0.4	10.7	12.0	14.1	29 58.09	+ 0.15	7.33	9 30 5.57	13.72
	ε Leonis	†36	46.6	48.7	50.1	0.8	1.7	3.2	4.4	5.4	16.0	17.3	19.6	38 3.08	— 0.03	7.33	9 38 10.38	16.46
	O. Arg. S. 10122	37	45.2	47.5	48.8	59.4	0.4	1.6	2.9	4.0	14.7	15.9	18.1	42 1.68	+ 0.17	7.32	9 42 9.17	13.61
	Lacaille 4132	38	17.2	19.4	20.7	31.6	32.7	34.1	35.3	36.5	47.5	48.7	50.9	58 34.05	+ 0.18	7.31	9 58 41.54	13.68
	O. Arg. S. 10351	39	- -	- -	- -	10.2	11.6	13.5	31.1	33.6	35.1	36.5	38.0	59 26.20	— 29.15	7.31	9 59 4.36	13.68
	Weisse 115	40	34.2	36.2	37.5	47.3	48.3	49.5	50.7	51.8	1.6	2.7	4.6	7 49.49	+ 0.01	7.30	10 7 56.80	15.53
	Lacaille 4349	41	9.4	11.7	13.0	24.3	25.3	26.7	28.1	29.4	40.5	42.0	44.3	28 26.79	0.20	7.28	10 28 34.27	13.98
	Lacaille 4365	42	59.4	1.6	3.1	14.4	15.7	17.1	18.5	19.7	31.2	32.6	35.1	30 17.13	0.21	7.28	10 30 24.62	13.95
	Lacaille 4387	43	43.6	46.2	47.8	59.5	0.6	2.0	3.5	4.8	16.9	18.2	20.7	33 2.16	+ 0.24	7.28	10 33 9.68	13.89
	B. A. C. 3677	†44	- -	- -	- -	27.6	28.9	31.5	50.0	53.0	54.5	56.0	57.7	35 44.90	— 31.54	7.28	10 35 20.64	13.96
	O. Arg. S. 10874	45	55.6	56.6	58.0	59.2	0.4	- -	31.9	34.8	36.3	37.7	39.2	40 16.97	— 18.75	7.27	10 40 5.49	14.24
	O. Arg. S. 10872	46	41.6	43.9	45.3	- -	- -	- -	- -	- -	11.9	13.3	15.4	39 58.57	+ 0.14	7.27	10 40 5.98	14.24
	B. A. C. 3719	47	- -	- -	- -	30.4	31.6	33.0	34.5	35.7	47.3	48.6	51.1	43 39.02	— 5.71	7.27	10 43 40.58	14.15
	Lacaille 4506	48	1.8	4.0	5.6	16.6	17.8	19.2	20.6	21.8	33.1	34.6	37.0	47 19.28	+ 0.21	7.26	10 47 26.75	14.25
	Lacaille 4519	49	- -	- -	- -	- -	- -	- -	56.5	59.4	0.7	2.3	3.8	50 0.54	— 39.07	7.26	10 49 28.73	— 14.30

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 5, 10.5	+ 7.28	— 0.052	- -

11. Very faint; through haze.
36. Unsteady.
44. Preceded by a star 6.5 magnitude, to the southward.

s.
March 5, n. = — 0.22.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 5	χ Leonis	1	40.3	42.4	43.6	53.2	54.3	55.4	56.7	57.8	7.3	8.6	10.7	57 55.48	+ 0.03	+ 7.25	10 58 2.76	— 15.07
Y.	Lacaille 4590	2	- -	- -	- -	13.3	14.5	15.9	17.2	18.3	29.5	30.9	33.1	0 21.59	— 5.51	7.25	11 0 23.33	14.48
	O. Arg. S. 11188	3	29.0	31.1	32.5	42.9	44.1	45.5	46.8	47.8	58.6	59.9	2.0	2 45.47	+ 0.17	7.25	11 2 52.89	14.57
	O. Arg. S. 11208	4	32.3	34.6	35.9	46.5	47.6	48.8	50.1	51.4	1.9	3.2	5.5	3 48.89	0.17	7.25	11 3 56.31	14.59
	Lacaille 4638	5	58.8	1.1	2.5	13.0	14.1	15.5	16.7	17.8	28.4	29.8	32.0	5 15.43	0.17	7.25	11 5 22.85	14.60
	O. Arg. S. 11250	6	36.5	38.8	40.2	50.7	51.8	53.0	54.5	55.6	6.3	7.6	9.8	7 53.16	0.17	7.25	11 8 0.58	14.63
	δ Crateris	7	12.5	14.5	16.0	25.7	26.8	27.9	29.1	30.2	40.2	41.4	43.4	12 27.97	0.12	7.24	11 12 35.33	14.76
	O. Arg. S. 11344	8	30.6	32.9	34.0	44.5	45.6	46.9	48.1	49.2	59.8	1.0	3.2	15 46.89	0.16	7.24	11 15 54.29	14.74
	O. Arg. S. 11353	9	13.8	16.0	17.3	27.6	28.6	30.0	31.2	32.3	42.9	44.4	46.3	16 30.04	0.16	7.24	11 16 37.44	14.75
	O. Arg. S. 11410	10	16.9	19.0	20.4	30.5	31.6	33.0	34.3	35.5	46.0	47.2	49.3	21 33.06	0.16	7.24	11 21 40.46	14.80
	O. Arg. S. 11438	11	14.4	16.6	17.9	28.6	29.7	31.0	32.3	33.3	43.9	45.3	47.5	23 30.95	+ 0.17	7.24	11 23 38.36	14.82
	O. Arg. S. 11444	12	- -	- -	- -	- -	- -	- -	44.4	47.0	48.4	49.7	51.1	24 48.12	— 37.00	7.25	11 24 18.35	14.83
	γ Cephei, S. P.	13	42.4	33.6	28.5	46.7	42.1	36.9	32.0	27.4	44.3	39.5	30.0	33 36.67	+ 0.68	7.22	11 33 44.67	6.71
	B. A. C. 3974	14	- -	- -	- -	- -	- -	- -	14.3	17.4	18.9	20.6	22.2	37 18.68	— 41.56	7.22	11 36 44.34	15.07
	β Leonis	15	47.1	49.0	50.4	0.4	1.4	2.6	3.9	5.0	15.0	16.2	18.3	42 2.66	0.00	7.22	11 42 9.88	14.89
	Iris	16	18.3	20.4	21.7	31.2	32.1	33.4	34.5	35.6	45.3	46.5	48.5	44 33.41	+ 0.09	7.22	11 44 40.72	- -
6	α Cygni	†17	19.9	22.3	24.3	37.8	39.0	40.8	42.5	43.8	57.4	59.2	2.0	36 40.82	0.05	6.57	20 36 47.44	7.95
R.	Venus II	18	51.9	53.9	55.2	5.1	6.4	7.6	8.9	9.9	19.8	21.2	23.5	4 7.58	+ 0.07	6.57	21 4 14.22	0.46
	β Cephei	19	- -	- -	- -	37.9	40.8	44.8	48.0	51.4	19.0	22.6	28.5	26 59.12	— 14.37	6.56	21 26 51.31	0.98
	ε Pegasi	20	8.8	11.0	12.3	21.6	22.8	24.1	25.2	26.2	35.9	37.1	39.2	37 24.02	+ 0.06	6.56	21 37 30.64	12.05
	Mercury II	21	0.2	2.3	3.5	13 4	14.5	15.8	16.9	17.9	28.0	29.4	31.4	55 15.75	0.07	6.55	21 55 22.37	0.19
7	Sun I	22	20.1	22.0	23.3	32.7	33.8	35.1	36.3	37.3	47.0	48.0	50.2	12 35.07	0.06	6.53	23 12 41.66	- -
	Sun II	23	29.9	31.9	33.1	42.8	43.7	45.0	46.2	47.2	56.9	58.0	0.1	14 44.98	0.06	6.53	23 14 51.57	- -
	Polaris	†24	- -	- -	- -	19.0	0.0	47.0	34.0	17.0	- -	- -	- -	8 47.40	3.07	6.50	- - - -	54.56
	β Arietis	25	46.2	48.3	49.7	59.7	0.8	2.0	3.2	4.5	14.6	16.0	18.2	47 2.11	0.05	6.49	1 47 8.65	13.82
	α Arietis	26	8.7	10.9	12.3	22.7	23.6	25.0	26.3	27.4	37.8	39.0	41.2	59 24.99	0.05	6.49	1 59 31.53	14.17
	Lacaille 4387	27	44.8	47.3	48.8	0.6	1.7	3.2	4.7	6.0	17.9	19.3	21.8	33 3.28	0.15	6.35	10 33 9.78	13.90
	l Leonis	28	47.2	49.6	50.6	0.3	1.4	2.6	3.7	4.8	14.7	15.9	18.0	42 2.62	+ 0.04	6.35	10 42 9.01	15.33
	O. Arg. S. 10944	29	- -	- -	- -	5.9	6.9	8.3	9.6	10.8	21.5	22.8	24.9	46 13.84	— 5.39	6.35	10 46 14.80	14.37
	Lacaille 4505	30	7.7	9.8	11.0	21.7	22.8	24.0	25.4	26.4	37.3	38.8	40.9	47 24.16	+ 0.12	6.35	10 47 30.63	14.38
	O. Arg. S. 11020	31	39.0	41.2	42.5	52.9	54.0	55.4	56.7	57.7	8.2	9.5	11.7	51 55.35	0.11	6.35	10 52 1.81	14.48
	Weisse 1049	32	41.0	43.1	44.4	54.3	55.2	56.5	57.6	58.6	- -	- -	- -	58 51.34	+ 5.17	6.34	10 59 2.85	15.32
	Weisse 1060	33	- -	- -	- -	32.3	33.6	35.7	51.4	53.9	55.0	56.3	57.6	59 46.98	— 26.70	6.34	10 59 26.62	15.32
	δ Leonis	34	32.7	34.7	36.2	46.4	47.4	48.6	49.7	50.8	1.4	2.6	4.9	6 48.67	+ 0.03	6.34	11 6 55.04	15.53
	Lacaille 4693	35	34.7	36.9	38.2	48.6	49.7	50.9	52.3	53.3	3.9	5.1	7.5	11 51.01	0.11	6.34	11 11 57.46	14.71
	O. Arg. S. 11344	36	31.9	33.8	35.2	45.5	46.6	48.0	49.3	50.6	0.8	2.0	4.4	15 48.01	0.11	6.34	11 15 54.46	14.76
	O. Arg. S. 11353	37	- -	- -	- -	28.8	29.9	31.1	32.5	33.5	43.8	45.1	47.5	16 36.52	5.27	6.34	11 16 37.59	14.76
	τ Leonis	38	37.8	39.9	41.0	50.7	51.8	52.8	54.0	55.1	4.8	5.8	8.0	20 52.88	+ 0.05	6.34	11 20 59.27	15.04
	Weisse 365	39	- -	- -	- -	20.9	21.8	23.0	24.2	25.3	34.9	36.0	38.2	21 28.04	— 4.92	6.34	11 21 29.46	15.03
	O. Arg. S. 11491	40	- -	- -	- -	11.5	12.6	14.0	15.3	16.5	27.6	29.0	31.4	28 19.74	— 5.55	6.34	11 28 20.53	14.90
	* — 26° 5′	41	10.1	12.4	13.7	24.3	25.4	26.8	28.1	29.3	40.0	41.3	43.5	32 26.81	+ 0.12	6.34	11 32 33.27	14.94
	Lacaille 4881	42	10.7	13.0	14.5	- -	- -	- -	-	- -	40.9	42.2	44.5	39 27.63	0.08	6.33	11 39 34.04	15.04
8	κ Cancri	43	4.1	6.3	7.5	17.3	18.2	19.3	20.5	21.6	31.5	32.6	34.8	0 19.43	+ 0.04	5.73	9 0 25.20	15.59
Y.	* — 27° 45′	44	- -	- -	- -	53.7	54.8	56.0	57.5	58.7	9.6	11.0	13.2	6 1.81	— 5.44	5.73	9 6 2.10	12.92
	O. Arg. S. 9488	45	29.2	31.5	32.9	43.9	45.0	46.3	47.6	48.8	59.8	1.0	3.3	7 46.30	+ 0.16	5.73	9 7 52.19	12.94
	* — 28° 33′	46	33.5	35.9	37.3	48.2	49.3	50.5	51.8	52.9	4.3	5.4	7.7	11 50.62	0.16	5.73	9 11 56.51	12.94
	O. Arg. S. 9615	47	29.3	31.4	32.7	43.7	44.7	46.1	47.5	48.7	59.7	1.0	3.5	14 46.21	0.16	5.75	9 14 52.10	12.98
	* — 28° 29′	48	5.6	7.6	8.9	19.9	21.0	22.3	23.6	24.9	35.8	37.3	39.5	17 22.40	+ 0.16	5.73	9 17 28.29	13.02
	* — 28° 28′	49	- -	- -	- -	45.6	47.8	50.2	7.5	10.3	11.6	13.1	14.6	18 2.59	— 29.43	5.73	9 17 38.89	13.03
	* — 28° 28′	50	- -	- -	- -	48.7	50.0	52.4	9.6	12.3	13.7	15.0	16.5	19 4.78	— 29.43	+ 5.73	9 18 41.08	— 13.04

17. Very unsteady.
24. Very unsteady.

	s.
March 6–7, 20h. to 2h. n. =	— 0.03.
7, 10h. to 12h.	— 0.10.
8, 9h. to 13h.	— 0.15.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Mar. 7,	4.4 + 6.45	— 0.016	+ 0.060
8,	10.9 + 5.76	+ 0.018	+ 0.070
	22.1 + 5.45	— 0.073	- -

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 8	Lacaille 3864 . .	1	40.0	42.1	43.5	54.3	55.4	56.8	58.0	59.2	10.1	11.5	13.7	23 56.78	+ 0.16	+ 5.73	9 24 2.67	— 13.17
Y	O. Arg. S. 9903 .	2	43.8	46.0	47.2	57.4	58.4	59.7	1.0	2.1	12.3	13.5	15.7	29 59.74	0.13	5.73	9 30 5.60	13.70
	* — 35° 24′ . .	3	35.5	38.0	39.4	51.2	52.4	53.8	55.3	56.6	8.2	9.7	12.4	34 53.86	0.19	5.74	9 34 59.79	12.83
	* — 24° 34′ . .	†4	37.0	39.2	40.5	. .	. .	.	. .	. .	6.2	7.4	9.7	40 53.33	0.11	5.74	9 40 59.18	13.58
	μ Leonis	5	41.5	43.7	45.3	56.1	57.0	58.5	59.7	0.8	11.6	13.1	15.3	44 58.42	0.00	5.74	9 45 4.16	16.49
	* — 37″ 45′ . .	†6	54.7	56.9	58.6	10.7	11.9	13.3	14.8	16.1	28.2	29.8	32.3	48 13.39	0.21	5.74	9 48 19.34	12.93
	B. A. C. 3405 .	7	18.4	20.6	22.0	33.4	34.6	36.0	37.5	38.6	50.2	51.5	54.0	50 36.07	0.18	5.74	9 50 41.99	13.27
	O. Arg. S. 10471 .	8	28.0	30.1	31.5	41.9	42.9	44.2	45.4	46.6	57.0	58.3	0.6	7 44.23	+ 0.14	5.75	10 7 50.12	13.98
	Lacaille 4218 . .	9	. .	. .	. .	46.7	47.8	49.1	50.5	51.6	2.8	4.1	6.4	9 54.88	— 5.45	5.75	10 9 55.18	13.81
	Lacaille 4253 . .	10	50.0	52.5	54.0	6.3	7.6	9.2	10.7	12.0	24.4	25.9	28.4	14 9.18	+ 0.21	5.75	10 14 15.14	13.40
	Rumker 3171 . .	11	11.6	13.7	14.9	24.6	25.6	26.7	28.0	29.0	39.0	40.2	42.2	17 26.86	0.04	5.75	10 17 32.65	15.47
	Weisse 377 . . .	12	50.0	52.3	53.4	3.2	4.2	5.3	6.4	7.6	17.4	18.6	20.8	22 5.38	0.04	5.75	10 22 11.17	15.42
	Weisse 439 . . .	13	20.7	22.6	23.8	33.5	34.6	35.8	37.0	38.1	47.8	49.0	51.1	25 35.82	0.04	5.75	10 25 41.61	15.40
	Lacaille 4363 . .	14	54.0	56.5	57.6	8.5	9.6	10.8	12.3	13.5	24.3	25.8	28.0	30 10.99	0.16	5.75	10 30 16.90	14.09
	Lacaille 4389 . .	15	16.4	18.8	20.2	31.5	32.7	34.2	35.6	36.8	48.3	49.6	52.0	33 34.19	0.18	5.75	10 33 40.12	14.00
	Lacaille 4419 . .	16	37.0	39.5	41.0	52.0	53.2	54.6	56.0	57.2	8.5	9.8	12.3	36 54.65	0.17	5.75	10 37 0.57	14.11
	l Leonis	17	48.0	50.1	51.4	1.2	2.1	3.3	4.5	5.6	15.4	16.4	18.6	42 3.33	+ 0.04	5.76	10 42 9.13	15.34
	Lacaille 4488 . .	18	.	. .	. .	17.8	19.3	21.6	39.7	42.5	43.9	45.6	47.2	44 34.70	— 30.88	5.76	10 44 9.58	14.17
	B. A. C. 3755 . .	19	1.6	4.0	5.6	17.5	18.6	20.1	21.7	23.0	35.0	36.4	38.9	50 20.22	+ 0.20	5.76	10 50 26.18	14.22
	B. A. C. 3792 . .	20	8.0	10.5	11.9	23.5	24.7	26.2	27.6	28.9	40.6	41.9	44.6	58 26.22	0.19	5.76	10 58 32.17	14.39
	Lacaille 4607 . .	21	6.2	8.6	10.1	22.3	23.5	25.1	26.6	27.9	40.0	41.5	44.2	1 25.09	0.20	5.76	11 1 31.05	14.42
	Lacaille 4642 . .	22	21.3	23.7	25.0	36.3	37.3	38.7	40.0	41.3	52.7	53.9	56.5	5 38.79	+ 0.18	5.76	11 5 44.73	14.55
	Lacaille 4668 . .	23	58.8	0.6	2.1	3.7	6.5	. .	22.4	25.7	27.2	28.7	30.3	8 44.60	— 0.09	5.76	11 8 50.27	14.56
	Lacaille 4680 . .	24	2.0	4.8	6.1	18.2	19.4	21.0	22.5	23.9	35.9	37.6	40.2	10 21.05	+ 0.20	5.77	11 10 27.02	14.59
	O. Arg. S. 11344 .	25	32.2	34.4	. .	45.9	47.0	48.3	49.6	50.8	. .	2.4	4.6	15 48.36	+ 0.15	5.77	11 15 54.28	14.76
	O. Arg. S. 11353 .	26	. .	. .	.	. .	. .	. .	4.3	7.1	8.3	9.7	11.0	17 8.08	— 36.40	5.77	11 16 37.45	14.77
	τ Leonis	27	38.4	40.5	41.7	51.3	52.3	53.5	54.6	55.6	5.2	6.4	8.4	20 53.45	+ 0.06	5.77	11 20 59.28	— 15.05
	B. A. C. 8213, S. P.	28	. .	. .	. .	3.0	47.5	27.0	7.0	48.0	. .	. .	. .	27 26.50	0.54	5.77	23 27 32.81	+ 15.46
	* — 27° 43′ . .	29	8.8	11.3	12.5	23.4	24.5	25.8	27.2	28.3	39.3	40.5	42.9	33 25.86	0.16	5.77	11 33 31.79	— 14.97
	B. A. C. 3974 . .	30	19.7	22.1	23.8	35.5	36.7	38.3	39.7	41.0	52.9	54.5	57.0	36 38.29	0.20	5.77	11 36 44.26	15.10
	* — 7° 22′ . . .	†31	49.2	51.0	52.2	1.7	2.7	3.7	4.9	5.8	. .	. .	. .	40 58.90	5.12	5.77	11 41 9.79	14.98
	* — 35° 12′ . .	32	56.4	58.7	0.2	12.0	13.0	14.4	15.9	17.2	29.2	30.7	33.2	47 14.64	+ 0.19	5.78	11 47 20.61	15.27
	O. Arg. S. 11796 .	33	. .	. .	. .	. .	. .	. .	42.5	45.1	46.5	48.0	49.5	51 46.32	— 37.57	5.78	11 51 14.53	15.18
	B. A. C. 4070 . .	†34	. .	. .	. .	30.5	45.0	2.0	19.0	36.5	. .	. .	. .	58 2.60	— 0.50	5.78	11 58 7.88	28.55
	ε Corvi	35	49.0	51.1	52.5	2.8	3.8	5.1	6.3	7.4	17.9	19.2	21.4	3 5.14	+ 0.14	5.78	12 3 11.06	15.23
	* — 25° 47′ . .	36	37.0	40.0	41.4	52.1	53.1	54.5	55.7	56.9	7.7	8.9	11.2	8 54.49	+ 0.15	5.78	12 9 0.42	15.37
	* — 25° 48′ . .	37	. .	. .	. .	58.7	0.1	2.3	19.2	21.8	23.2	24.7	26.0	9 14.50	— 28.74	5.78	12 8 51.54	15.37
	η Virginis	†38	. .	. .	. .	51.6	52.4	53.5	54.7	55.7	. .	. .	. .	13 53.58	+ 0.12	5.78	12 13 59.48	14.93
R.	α Cygni	39	20.9	23.6	25.5	38.6	40.2	41.9	43.6	45.0	58.6	0.3	3.0	36 41.93	0.06	5.60	20 36 47.59	7.97
	Venus II . . .	40	43.7	45.7	47.1	57.0	58.0	59.3	0.5	1.6	11.7	12.9	15.1	13 59.33	0.08	5.52	21 14 4.93	0.46
	β Cephei	41	1.8	7.4	11.4	39.3	42.2	45.6	48.9	52.0	20.4	23.8	29.8	26 45.69	0.09	5.50	21 26 51.28	1.05
	ε Pegasi	42	10.0	12.0	13.2	22.9	23.8	25.0	26.3	27.3	37.2	38.3	40.4	37 25.13	0.06	5.49	21 37 30.68	12.08
9	Sun I	43	43.7	45.6	46.9	56.5	57.5	58.6	59.8	1.0	10.6	11.7	13.9	19 58.71	0.07	5.36	23 20 4.14	. .
	Sun II	44	53.5	55.5	56.9	6.2	7.2	8.3	9.5	10.6	20.4	21.6	23.6	22 8.48	0.07	5.36	23 22 13.91	. .
	α Andromedæ . .	45	59.7	1.9	3.3	14.1	15.3	16.6	17.9	19.1	30.2	31.5	33.7	1 16.66	0.06	5.35	0 1 22.07	12.60
	Polaris	†46	. .	. .	. .	18.0	1.0	48.0	38.0	18.0	. .	. .	. .	8 48.60	3.15	5.23	1 8 56.98	53.63
	Lacaille 3621 . .	47	33.3	35.6	37.0	47.8	48.9	50.2	51.4	52.5	3.6	4.8	7.1	53 50.20	0.13	5.53	8 53 55.86	12.78
	* — 27° 17′ . .	48	54.8	57.0	58.5	8.9	10.2	11.5	12.7	14.0	24.8	26.1	28.5	56 11.55	0.13	5.53	8 56 17.21	12.81
	κ Cancri	49	4.4	6.4	7.8	17.3	18.5	19.7	20.8	21.9	31.7	32.9	35.0	0 19.67	0.05	5.52	9 0 25.24	15.58
	* — 27° 46′ . .	50	39.8	41.9	43.3	54.0	55.2	56.5	57.9	59.1	10.0	11.3	13.6	5 56.60	+ 0.13	+ 5.52	9 6 2.25	— 12.91

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 9, 10.4	+ 5.42	— 0.073	+ 0.070

4. Faint.
6. Faint.
31. Faint.
34. Unsteady.
38. Unsteady.
46. Unsteady.

s.
March 8–9, 20h. to 2h. n. = — 0.04.
9, 8h. to 13h. — 0.10.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 9	O. Arg. S. 9488	1	29.9	32.0	33.3	43.9	45.0	46.5	47.7	49.0	59.8	1.2	3.5	7 46.53	+ 0.13	+ 5.52	9 7 52.18	— 12.93
R.	* — 28° 39′	2	. .	. .	. .	27.9	28.9	30.3	31.7	32.9	43.8	45.0	47.3	14 35.98	— 5.51	5.51	9 14 35.98	12.96
	* — 28° 45′	3	. .	. .	. .	0.1	1.2	3.6	21.0	23.7	25.2	26.5	28.0	15 16.16	29.53	5.51	9 15 2.14	12.96
	* — 28° 29′	4	. .	. .	. .	49.0	50.3	52.7	9.6	12.6	13.8	15.1	. .	19 3.30	27.76	5.50	9 18 41.04	13.03
	ε Antliæ	5	. .	. .	.	32.5	33.6	35.0	36.5	37.8	49.7	51.2	53.7	23 41.25	— 5.93	5.49	9 23 40.81	12.62
	O. Arg. S. 9903	6	44.2	46.2	47.5	57.6	58.7	0.0	1.2	2.4	12.6	14.0	16.0	30 0.04	+ 0.11	5.49	9 30 5.64	13.70
	* — 20° 22′	7	55.3	57.5	58.7	8.9	9.9	11.1	12.3	13.6	23.8	25.0	27.1	32 11.20	0.11	5.48	9 32 16.79	13.72
	ε Leonis	8	48.4	50.6	52.0	2.5	3.6	4.9	6.2	7.3	17.9	19.1	21.4	38 4.90	0.03	5.48	9 38 10.41	16.44
	O. Arg. S. 10131	9	13.1	15.5	16.7	27.9	29.0	30.4	31.7	32.9	43.9	45.5	47.9	42 30.41	0.14	5.47	9 42 36.02	13.31
	Lacaille 4089	10	18.0	20.3	21.6	32.4	33.5	34.9	36.2	37.5	48.4	49.8	52.3	52 34.99	0.14	5.46	9 52 40.59	13.52
	O. Arg. S. 10337	11	45.0	47.2	48.6	58.9	59.9	1.3	2.6	3.7	14.3	15.7	17.8	58 1.36	0.12	5.45	9 58 6.93	13.84
	Lacaille 4218	12	32.8	35.0	36.5	47.3	48.4	49.6	51.1	52.2	3.0	4.5	6.8	9 49.75	+ 0.13	5.44	10 9 55.32	13.80
	γ Leonis	13	. .	. .	. .	38.0	39.4	41.5	57.8	0.4	1.6	3.0	4.3	12 53.25	— 27.74	5.43	10 12 30.94	16.02
	χ Leonis	†14	42.0	44.1	45.4	55.0	56.0	57.3	58.4	59.5	9.3	10.3	12.5	57 57.25	+ 0.06	5.38	10 58 2.69	15.09
	Weisse 758	15	56.5	58.6	59.8	9.3	10.3	11.5	12.7	13.7	23.5	24.6	26.7	44 11.56	+ 0.08	5.32	11 44 16.96	14.99
	4 Draconis	16	32.9	43.0	48.4	36.5	40.9	47.7	53.3	58.4	46.6	52.0	2.3	5 47.45	— 0.14	5.30	12 5 52.61	17.45
	η Virginis	17	39.4	41.3	42.4	52.0	53.0	54.3	55.5	56.5	6.1	7.3	9.3	12 54.28	+ 0.07	5.29	12 12 59.64	14.94
11	α Cygni	18	22.3	25.1	26.9	40.3	41.5	43.3	44.9	46.5	0.0	1.6	4.5	36 43.35	0.00	4.32	20 36 47.67	8.05
	β Cephei	19	3.6	9.3	12.8	40.8	43.5	47.1	50.5	53.9	21.8	25.4	31.1	26 47.25	— 0.07	4.30	21 26 51.48	1.18
Y.	Venus II	20	23.8	25.8	27.2	37.1	38.1	39.2	40.5	41.6	51.7	52.7	55.0	28 39.34	+ 0.10	4.30	21 28 43.74	0.45
	ε Pegasi	21	11.1	13.2	14.5	24.0	25.0	26.2	27.5	28.5	38.3	39.5	41.5	37 26.30	0.05	4.30	21 37 30.65	12.13
	Mercury II	22	20.5	22.4	23.7	33.4	34.4	35.6	36.9	37.9	47.9	49.1	51.3	26 35.74	0.09	4.28	22 26 40.11	0.18
12	Sun II	23	55.9	57.8	59.2	8.5	9.6	10.8	11.9	13.0	22.8	24.0	25.9	33 10.85	+ 0.08	4.26	23 33 15.19	64.68
	Polaris	24	45.0	5.0	53.5	21.0	1.0	49.5	37.5	19.0	52.0	41.0	0.0	8 51.32	— 1.22	4.23	1 8 54.33	52.73
	β Arietis	25	48.4	50.5	51.8	1.9	3.0	4.3	5.6	6.7	16.9	18.2	20.3	47 4.33	+ 0.04	4.22	1 47 8.59	13.79
	α Arietis	26	10.9	13.0	14.4	24.7	25.8	27.2	28.4	29.6	40.1	41.3	43.6	59 27.18	0.03	4.21	1 59 31.42	14.12
	η Tauri	27	5.0	7.1	8.5	18.9	20.0	21.3	22.5	23.7	34.1	35.5	37.8	39 21.31	0.03	4.18	3 39 25.52	— 15.35
	δ Ursæ Minoris, S. P.	28	7.0	33.3	11.5	31.5	16.0	55.0	35.5	17.0	40.0	14.7	41.0	15 54.77	+ 0.50	4.13	18 15 59.40	+ 90.63
	51 Cephei	†29	29.5	58.0	23.0	48.0	35.0	. .	27.7	17.5	43.0	10.5	37.7	36 0.09	— 2.97	4.12	6 36 1.24	— 142.73
		†30	46.7	26.5	53.0	12.0	31.0	57.0	21.7	40.0	4.2	29.0	11.0					
	Canis Majoris	31	18.4	20.4	21.7	31.5	32.6	33.8	35.0	36.2	46.1	47.5	49.4	57 33.87	+ 0.10	4.11	6 57 38.08	12.70
	O. Arg. S. 6232	32	10.1	12.4	13.7	24.3	25.5	26.8	28.1	29.3	40.0	41.3	43.5	1 26.82	0.15	4.11	7 1 31.08	11.48
	* — 28° 31′	†33	18.1	20.4	21.8	32.6	33.7	35.1	36.4	37.6	48.6	49.9	52.2	4 35.13	+ 0.16	4.11	7 4 39.40	11.27
	* — 27° 8′	34	4.0	. .	. .	. .	. .	. .	8.2	11.0	12.4	13.8	15.1	7 12.10	— 37.65	4.11	7 6 38.56	11.45
	O. Arg. S. 6431	35	48.4	50.6	52.0	2.6	3.8	5.2	6.5	7.7	18.5	19.8	22.1	8 5.20	+ 0.16	4.11	7 8 9.47	11.47
	O. Arg. S. 6489	36	. .	. .	. .	48.9	50.1	51.4	52.8	53.9	. .	. .	. .	9 51.42	0.21	4.11	7 9 55.74	11.37
	* — 29° 37′	37	37.7	40.0	41.3	52.4	53.4	54.9	56.2	57.4	8.5	9.8	12.2	12 54.89	0.17	4.11	7 12 59.17	11.22
	* — 31° 1′	38	4.2	6.5	8.0	19.2	20.3	21.7	23.0	24.3	35.4	37.0	39.3	17 21.72	0.17	4.11	7 17 26.00	11.10
	O. Arg. S. 6858	39	3.3	5.5	6.9	17.7	18.7	20.2	21.5	22.6	33.5	35.0	37.2	22 20.19	0.16	4.10	7 22 24.45	11.51
	O. Arg. S. 6941	40	40.7	43.0	44.3	55.3	56.4	57.6	59.1	0.2	11.2	12.6	14.9	24 57.68	+ 0.16	4.10	7 25 1.94	11.49
	O. Arg. S. 6946	41	20.9	22.4	23.8	25.0	27.6	. .	36.1	38.9	40.2	41.6	43.0	25 1.95	— 0.11	4.10	7 25 5.94	11.49
	* — 29° 41′	42	52.8	55.1	56.3	7.5	8.6	9.9	11.3	12.5	. .	. .	. .	30 4.25	+ 5.91	4.10	7 30 14.26	11.41
	* — 29° 44′	43	. .	. .	. .	18.0	19.2	20.6	21.9	23.1	34.3	35.6	37.9	30 26.32	— 5.54	4.10	7 30 24.88	11.41
	* — 29° 48′	44	. .	. .	. .	55.9	57.0	58.4	59.8	1.0	. .	. .	. .	31 58.42	+ 0.22	4.10	7 32 2.74	11.42
	O. Arg. S. 7239	45	53.6	55.9	57.3	8.0	9.1	10.3	11.8	12.9	23.8	25.3	27.5	35 10.50	0.16	4.10	7 35 14.76	11.71
	O. Arg. S. 7286	46	24.6	26.9	28.3	39.3	40.4	41.8	43.2	44.4	55.5	56.9	59.2	36 41.86	0.17	4.10	7 36 46.13	11.47
	* — 27° 16′	47	21.7	23.9	25.4	36.1	37.3	38.5	39.7	40.9	51.9	53.3	55.5	40 38.56	0.16	4.10	7 40 43.82	11.81
	O. Arg. S. 7445	48	. .	. .	. .	9.8	10.9	12.2	13.4	14.7	. .	. .	. .	42 12.20	+ 0.21	4.10	7 42 16.51	11.82
	O. Arg. S. 7473	49	. .	. .	. .	. .	. .	. .	54.0	56.8	58.3	59.7	1.2	43 58.00	— 38.64	4.10	7 43 23.46	11.55
	* — 26° 4′	50	. .	. .	. .	37.4	38.5	39.7	41.0	42.1	. .	. .	. .	46 39.74	+ 0.20	+ 4.10	7 46 44.04	— 11.95

14. Stars very faint.
29–30. Steady.
33. The only star seen.

March 11–12, 20h. to 7h. n. = — 0.s10.
12, 7h. to 9h. — 0.15.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Mar. 12,	6.1	+ 4.13	— 0.020	+ 0.070

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s,	h. m. s.	s.
Mar. 12 Y.	* — 26° 3′	1	7.4	9.7	11.0	21.6	22.7	24.1	25.5	26.7	- -	- -	- -	47 18.59	+ 5.70	+ 4.10	7 47 28.39	— 12.02
	* — 25° 59′	2	1.1	3.3	4.7	15.2	16.3	17.7	19.0	20.2	30.8	32.2	34.3	48 17.71	+ 0.15	4.10	7 48 21.96	12.03
	* — 30° 32′	3	- -	- -	- -	3.1	4.5	6.9	24.4	27.3	28.7	30.2	31.6	50 19.59	— 30.03	4.10	7 49 53.66	11.56
	O. Arg. S. 7758	4	43.9	46.0	47.5	58.3	59.4	0.7	2.0	3.1	14.0	15.3	17.6	53 0.71	+ 0.16	4.09	7 53 4.96	11.96
6	Cancri	5	- -	- -	- -	5.4	6.6	8.0	9.3	10.5	21.5	22.8	25.0	55 13.64	— 5.62	4.09	7 55 12.11	— 17.30
λ	Ursæ Minoris, S. P.	6	- -	- -	- -	55.0	2.5	59.0	54.0	4.0	- -	- -	- -	58 58.90	+ 1.68	4.09	19 58 4.67	+ 285.36
	O. Arg. S. 8108	7	19.1	21.5	22.8	33.8	34.9	36.3	37.6	38.8	50.0	51.3	53.6	3 36.34	0.17	4.09	8 3 40.60	— 11.81
	O. Arg. S. 8165	8	35.6	38.0	39.4	50.5	51.6	53.0	54.3	55.5	6.6	7.9	10.2	4 52.96	+ 0.17	4.09	8 4 57.22	11.84
	O. Arg. S. 8169	9	- -	- -	- -	26.3	27.7	30.0	47.5	50.3	51.7	53.3	54.8	5 42.70	— 29.78	4.09	8 5 17.01	11.85
	O. Arg. S. 8280	10	13.7	16.0	17.3	28.4	29.5	30.9	32.3	33.6	44.7	46.0	48.4	9 30.98	+ 0.17	4.09	8 9 35.24	11.84
	Lacaille 3257	11	45.5	48.0	49.4	1.1	2.3	3.7	5.2	6.5	18.3	19.7	22.2	13 3.81	0.19	4.09	8 13 8.09	11.39
	Lacaille 3267	12	- -	- -	- -	32.3	33.4	34.9	36.2	37.4	- -	- -	- -	14 34.84	0.25	4.09	8 14 39.18	11.88
	* — 29° 13′	13	40.1	42.4	43.9	54.8	55.8	57.3	58.6	59.8	10.9	12.2	14.5	16 57.30	0.17	4.09	8 17 1.56	12.06
	* — 26° 41′	14	15.3	17.6	19.0	29.7	30.7	32.1	33.4	34.5	45.4	46.7	48.9	20 32.12	0.15	4.09	8 20 36.36	12.35
	O. Arg. S. 8581	15	11.7	14.1	15.4	26.1	27.2	28.6	29.9	31.0	42.0	43.2	45.5	22 28.61	0.16	4.08	8 22 32.85	12.34
	O. Arg. S. 8620	16	59.2	1.5	3.0	13.9	15.0	16.3	17.8	18.9	30.0	31.4	33.8	24 16.44	0.17	4.08	8 24 20.69	12.10
	* — 23° 41′	17	9.3	11.4	12.7	23.1	24.2	25.5	26.8	27.9	38.4	39.8	42.0	27 25.56	0.14	4.08	8 27 29.78	12.71
	* — 30° 47′	18	24.0	26.3	27.7	38.7	39.9	41.3	42.6	43.8	55.2	56.6	59.0	29 41.37	0.17	4.08	8 29 45.62	12.08
	Lacaille 3419	19	25.6	27.9	29.3	40.3	41.4	42.9	44.2	45.6	56.8	58.0	0.5	30 42.95	0.17	4.08	8 30 47.20	12.10
	O. Arg. S. 8856	20	32.0	34.2	35.6	46.4	47.4	48.8	50.0	51.2	2.0	3.3	5.6	34 48.77	0.16	4.08	8 34 53.01	12.51
	Lacaille 3485	21	18.7	21.3	22.7	34.4	35.7	37.1	38.6	39.7	51.7	53.2	55.6	37 37.15	0.19	4.08	8 37 41.42	11.75
	O. Arg. S. 8946	22	15.9	18.2	19.5	30.3	31.4	32.7	34.2	35.3	46.0	47.3	49.6	39 32.76	0.16	4.08	8 39 37.00	12.57
	* — 37° 27′	23	10.0	12.7	14.2	26.2	27.4	29.0	30.5	31.7	43.8	45.4	47.9	43 28.98	0.21	4.08	8 43 33.27	11.65
	Lacaille 3582	24	15.9	18.3	19.7	30.9	32.1	33.6	34.9	36.0	47.5	48.7	51.2	48 33.54	0.17	4.08	8 48 37.79	12.30
	O. Arg. S. 9178	25	49.6	51.9	53.4	4.3	5.4	6.9	8.2	9.4	20.6	22.0	24.3	51 6.91	0.17	4.08	8 51 11.16	12.46
	Lacaille 3617	26	50.5	52.9	54.2	5.4	6.6	8.0	9.4	10.5	21.9	23.4	25.6	53 8.04	0.17	4.07	8 53 12.28	12.38
	* — 26° 57′	27	56.5	58.8	0.2	10.9	12.0	13.3	14.6	15.8	26.6	28.0	30.2	55 13.35	0.16	4.07	8 55 17.58	12.78
	O. Arg. S. 9310	28	22.8	24.9	26.2	37.0	38.0	39.4	40.7	41.7	52.8	53.9	56.2	58 39.42	0.16	4.07	8 58 43.65	12.86
	* — 31° 20′	29	- -	- -	- -	33.0	34.1	35.5	36.9	38.2	- -	- -	- -	1 35.54	0.26	4.07	9 1 39.78	12.52
	* — 31° 28′	30	51.2	53.5	54.9	6.1	7.2	8.7	10.1	11.4	22.5	23.9	26.4	2 8.72	0.20	4.07	9 2 12.99	12.52
	O. Arg. S. 9481	31	13.5	15.8	17.2	28.1	29.2	30.5	31.8	33.0	44.3	45.6	47.8	7 30.62	0.19	4.07	9 7 34.88	12.79
83	Cancri	32	6.0	8.1	9.3	19.3	20.3	21.5	22.8	23.9	34.2	35.4	37.5	11 21.66	0.01	4.07	9 11 25.74	16.04
	O. Arg. S. 9600	33	45.6	47.7	49.1	59.7	0.9	2.3	3.5	4.7	15.5	16.9	19.1	14 2.27	0.18	4.07	9 14 6.52	13.04
	O. Arg. S. 9652	34	38.6	41.0	42.4	53.4	54.6	56.0	57.3	58.5	9.8	11.0	13.4	16 56.00	+ 0.20	4.07	9 17 0.27	12.87
	O. Arg. S. 9661	35	19.3	20.4	21.7	23.1	24.4	- -	56.7	59.6	1.0	2.5	3.9	17 41.26	— 19.18	4.07	9 17 26.15	12.88
	* — 27° 46′	36	24.3	26.5	27.8	38.7	39.7	41.2	42.5	43.6	54.5	55.8	58.1	20 41.15	+ 0.18	4.07	9 20 45.40	13.08
	Lacaille 3864	37	41.6	43.9	45.2	56.0	57.1	58.4	59.7	1.0	11.9	13.3	15.5	23 58.51	+ 0.18	4.06	9 24 2.75	13.14
	* — 27° 35′	38	- -	- -	- -	27.9	29.4	31.6	48.6	51.4	52.7	54.2	55.8	24 43.95	— 29.17	4.06	9 24 18.84	13.14
	Lacaille 3905	39	- -	- -	- -	43.9	45.0	46.5	48.0	49.4	1.8	3.1	5.8	27 52.94	— 6.04	4.06	9 27 50.96	12.46
	Lacaille 3945	40	32.9	35.3	36.7	47.7	48.8	50.2	51.5	52.8	4.0	5.3	7.5	31 50.25	+ 0.20	4.06	9 31 54.51	13.09
	* — 35° 24′	41	9.4	11.8	13.2	25.0	26.1	27.7	29.0	30.3	42.2	43.7	46.1	35 27.68	0.23	4.06	9 35 31.97	12.80
	* — 29° 10′	42	3.4	5.7	7.2	18.0	19.2	20.6	22.0	23.1	34.2	35.5	37.9	37 20.62	0.19	4.06	9 37 24.87	13.24
	Brisbane 2651	43	19.8	22.3	24.0	36.5	37.7	39.4	40.9	42.2	54.8	56.3	59.1	40 39.36	+ 0.26	4.06	9 40 43.68	12.58
	Brisbane 2657	44	18.0	19.6	22.0	- -	- -	- -	42.0	45.1	46.9	48.7	50.2	41 36.56	— 20.74	4.06	9 41 19.88	12.60
	Lacaille 4036	45	- -	- -	- -	41.7	43.0	44.6	46.1	47.4	59.4	0.8	3.5	43 50.81	— 5.94	4.06	9 43 48.93	12.88
	* — 37° 32′	46	36.3	38.8	40.3	52.4	53.6	55.1	56.6	58.0	10.2	11.7	14.2	45 55.20	+ 0.24	4.06	9 45 59.50	12.86
	* — 27° 50′	47	- -	- -	- -	11.7	12.8	14.3	15.6	16.8	27.7	28.9	31.2	48 19.88	— 5.41	4.06	9 48 18.53	13.47
	O. Arg. S. 10227	48	39.7	41.8	43.2	54.1	55.2	56.5	57.8	59.0	10.1	11.2	13.5	49 56.56	+ 0.19	4.06	9 50 0.81	13.50
	* — 30° 1′	59	55.0	57.3	58.7	9.7	10.9	12.3	13.6	14.8	26.0	27.4	29.7	53 12.31	0.20	4.06	9 53 16.57	13.43
	* — 29° 34	50	38.1	40.0	41.5	52.6	53.6	55.0	56.5	57.8	- -	- -	- -	56 49.39	+ 5.92	+ 4.06	9 56 59.37	— 13.51

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 12, 6.1	+ 4.13	— 0.020	+ 0.070

s.
March 12, 9h. to 11h. n. = — 0.20.
11h. to 14h. — 0.26.

r.
March 12, 12h. 0m. Image east 0.14. Clamp east.

March 12. Fine night; stars very steady.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 12	* — 29° 33′ . .	1	5.9	8.1	9.5	20.6	21.7	23.1	24.5	25.7	36.8	38.2	40.3	57 23.13	+ 0.19	+ 4.06	9 57 27.38	— 13.52
Y.	Weisse 209 . . .	2	55.5	57.5	58.8	8.4	9.5	10.9	12.0	13.0	22.9	24.1	26.2	13 10.80	0.03	4.05	10 13 14.88	15.48
	Weisse 240 . . .	3	38.7	40.6	41.9	51.6	52.7	54.0	55.0	56.2	6.0	7.2	9.3	14 53.93	0.03	4.05	10 14 58.01	15.47
	Rumker 3171 . .	4	13.3	15.4	16.5	26.4	27.3	28.6	29.8	30.9	40.7	41.9	44.0	17 28.62	+ 0.03	4.05	10 17 32.70	15.46
	Weisse 316 . . .	5	. .	. .	. .	. .	. .	. .	43.2	45.7	47.0	48.1	49.6	19 46.72	— 34.28	4.05	10 19 16.49	15.42
	Weisse 375 . . .	6	43.4	45.5	46.7	56.4	57.5	58.7	59.8	0.8	10.8	11.9	13.9	21 58.67	+ 0.03	4.04	10 22 2.74	15.39
	Lacaille 4363 . .	7	55.9	58.0	59.5	10.2	11.4	12.7	14.1	15.3	26.1	27.5	29.8	30 12.77	0.19	4.04	10 30 17.00	14.08
	Lacaille 4384 . .	8	24.8	27.4	29.0	41.3	42.6	44.3	45.7	47.1	59.9	1.3	4.0	32 44.31	0.26	4.04	10 32 48.61	13.75
	O. Arg. S. 10849 .	9	39.6	41.8	43.0	53.5	54.5	55.7	57.0	58.2	8.8	10.0	12.3	37 55.85	0.16	4.04	10 38 0.05	14.33
	l Leonis	10	49.7	51.7	53.0	2.7	3.7	5.0	6.3	7.2	17.2	18.3	20.4	42 5.02	0.03	4.04	10 42 9.09	15.34
	O. Arg. S. 10933 .	11	9.4	11.5	12.8	23.3	24.3	25.6	26.9	28.0	38.6	39.9	42.1	45 25.67	0.16	4.04	10 45 29.87	14.40
	* — 30° 27′ . .	12	29.0	31.3	32.6	43.7	44.8	46.3	47.7	49.0	0.1	1.4	3.7	47 46.33	0.20	4.04	10 47 50.57	14.29
	* — 35° 46′ . .	13	29.1	31.4	33.2	44.9	45.9	47.5	49.0	50.3	2.2	3.4	6.0	52 47.54	0.23	4.03	10 52 51.80	14.28
	Lacaille 4567 . .	14	36.1	38.8	40.5	52.8	54.0	55.7	57.2	58.5	11.3	12.8	15.6	55 55.75	0.26	4.03	10 56 0.04	14.26
	Lacaille 4596 . .	15	2.0	4.2	5.6	16.6	17.7	19.2	20.5	21.7	32.8	34.1	36.5	0 19.17	0.23	4.03	11 0 23.43	14.50
	O. Arg. S. 11188 .	16	32.3	34.6	35.9	46.4	47.5	48.8	50.2	51.3	1.9	3.1	5.4	2 48.85	0.20	4.03	11 2 53.08	14.60
	O. Arg. S. 11208 .	17	35.6	37.7	39.0	49.7	50.8	52.0	53.4	54.6	5.2	6.5	8.7	3 52.11	0.20	4.03	11 3 56.34	14.61
	Lacaille 4638 . .	18	2.2	4.4	5.7	16.4	17.4	18.7	20.0	21.2	31.9	33.1	35.4	5 18.76	0.20	4.03	11 5 22.99	14.62
	O. Arg. S. 11250 .	19	39.9	42.2	43.4	54.0	55.1	56.3	57.7	58.8	9.5	10.7	13.2	7 56.44	0.20	4.03	11 8 0.67	14.66
	Crateris	20	15.7	17.8	19.2	29.0	30.0	31.3	32.5	33.5	43.4	44.7	46.8	12 31.26	+ 0.14	4.03	11 12 35.43	14.79
	Lacaille 4713 . .	21	. .	. .	. .	31.3	32.4	33.9	35.4	36.6	48.4	49.8	52.3	14 40.01	— 5.77	4.03	11 14 38.27	14.70
	Lacaille 4725 . .	22	. .	8.7	10.0	20.9	22.0	23.3	24.6	25.8	36.8	38.1	. .	16 23.36	+ 0.23	4.03	11 16 27.62	14.75
	* — 34° 47′ . .	23	58.8	1.3	2.7	14.4	15.5	17.0	18.5	19.8	31.5	32.8	35.4	21 17.06	0.27	4.03	11 21 21.36	14.82
	O. Arg. S. 11438 .	24	17.8	19.9	21.3	31.8	32.8	34.2	35.5	36.6	47.3	48.6	50.8	23 34.24	0.20	4.02	11 23 38.46	14.86
	O. Arg. S. 11444 .	25	57.7	59.8	1.2	11.8	12.9	14.1	15.4	16.6	27.4	28.6	30.8	24 14.21	0.20	4.02	11 24 18.43	14.87
	* — 40° 23′ . .	26	17.3	19.8	21.5	33.9	35.2	36.8	38.4	39.7	52.4	54.0	56.6	27 36.87	0.31	4.02	11 27 41.20	14.98
	* — 34° 21′ . .	27	14.4	16.7	18.2	29.7	30.9	32.4	33.8	35.2	46.7	48.1	50.6	30 32.43	0.26	4.02	11 30 36.71	14.98
	O. Arg. S. 11557 .	28	56.0	58.4	59.7	10.6	11.8	13.2	14.5	15.8	26.9	28.3	30.5	33 13.25	0.23	4.02	11 33 17.50	15.00
	Weisse 646 . . .	29	4.3	5.7	6.9	8.0	10.5	. .	. .	. .	. .	. .	. .	37 7.08	33.53	4.02	11 37 44.63	14.99
	Iris	30	46.6	48.7	49.9	59.5	0.4	1.6	2.9	3.9	13.7	14.8	16.9	38 1.72	0.10	4.02	11 38 5.84	14.99
	Weisse 674 . . .	31	57.0	58.7	0.0	9.8	10.7	11.9	13.0	14.1	23.9	25.0	27.2	39 11.94	+ 0.10	4.02	11 39 16.06	14.99
	β Leonis	†32	50.4	52.6	53.8	3.6	4.7	6.0	7.2	8.3	18.3	19.5	21.6	42 6.00	0.00	4.02	11 42 10.02	14.95
	Saturn I	33	49.9	51.2	52.4	53.5	55.7	. .	56.1	58.5	59.7	0.9	2.3	4 26.02	— 0.13	3.99	13 4 29.86	. .
	Saturn II	34	11.9	13.9	15.4	24.7	25.8	26.9	28.0	29.1	38.7	40.0	42.0	4 26.95	+ 0.09	3.99	13 4 31.03	. .
	Polaris, S. P. . .	35	. .	. .	. .	13.0	34.0	46.0	55.0	13.0	. .	. .	. .	8 44.20	5.78	3.99	13 8 53.97	112.62
	α Virginis	36	45.2	47.3	48.6	58.3	59.3	0.6	1.7	2.7	12.6	13.7	15.8	18 0.53	0.12	3.99	13 18 4.64	15.31
13	Moon I	37	51.5	53.7	54.9	5.3	6.3	7.6	9.0	10.2	20.7	21.9	24.2	26 7.75	+ 0.04	3.36	4 26 11.15	. .
R.	*α* Tauri	38	. .	. .	. .	2.7	3.8	5.0	6.4	7.4	17.4	18.6	20.8	28 10.26	— 5.12	3.35	4 28 8.49	15.05
	β Orionis	39	42.9	45.0	46.1	55.7	56.7	57.9	59.2	0.2	9.9	11.0	13.0	7 57.96	+ 0.09	3.34	5 8 1.39	12.74
	ε Pegasi	40	51.3	52.7	53.8	55.0	57.4	12.4	14.5	15.7	. .	. .	. .	37 1.60	+ 26.08	2.98	21 37 30.66	12.10
	Venus II	†41	6.3	8.4	9.6	. .	. .	. .	53.3	55.6	57.0	58.2	59.6	38 38.50	— 16.58	2.98	21 38 24.90	0.44
14	Sun I	42	. .	9.0	10.1	20.2	21.1	22.3	23.5	24.5	34.1	35.3	. .	38 22.23	+ 0.09	2.93	23 38 25.25	. .
	Sun II	†43	16.6	18.5	19.8	29.4	30.5	31.6	32.8	33.8	43.5	44.7	46.7	40 31.63	0.08	2.93	23 40 34.64	. .
	α Andromedæ . .	44	2.4	4.5	6.0	16.7	17.7	19.3	20.5	21.7	32.8	34.1	36.5	1 19.29	+ 0.03	2.83	0 1 22.15	12.61
	β Arietis	†45	. .	. .	. .	. .	. .	. .	. .	. .	18.1	19.5	21.6	47 19.73	— 14.12	2.89	1 47 8.50	13.76
Y.	*β* Orionis	46	43.2	45.4	46.6	56.1	57.1	58.4	59.6	0.6	10.3	11.5	13.5	7 58.39	+ 0.09	. .	. . . .	12.73
R.	Moon I	47	22.8	25.0	26.3	36.7	37.8	39.0	40.4	41.5	52.0	53.3	55.5	21 39.12	0.04	2.81	5 21 41.97	. .
15	*η* Geminorum . . .	48	23.2	25.4	26.7	52.3	53.6	55.6	12.1	14.9	16.2	17.5	19.0	6 56.05	— 16.56	2.43	6 6 41.92	— 16.41
Y.	*δ* Ursæ Minoris, S. P.	49	. .	. .	. .	. .	. .	. .	. .	. .	. .	17.5	43.0	12 0.25	+ 3 57.75	2.43	8 16 0.43	+ 89.61
	Moon I	50	20.4	22.7	23.9	34.4	35.4	36.7	38.0	39.0	49.6	50.9	53.1	15 36.74	+ 0.02	+ 2.42	6 15 39.18	. .

32. Ends cloudy.
41. Cloudy and unsteady.
43. Both limbs unsteady.
45. Cloudy.

March 13–14, . . . n. = s. — 0.10.
14–15, . . . — 0.14.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
	h. s.	s.	s.
Mar. 14, 14.2	+ 3.14	— 0.022	+ 0.070
15, 7.5	2.39	0.029	
21.6	+ 1.95	— 0.031	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 15	ε Geminorum . . .	1	17.0	19.2	20.5	31.0	32.1	33.4	34.7	35.9	46.6	47.9	50.1	35 33.49	+ 0.01	+ 2.42	6 35 35.92	—16.87
Y.	α Canis Majoris . .	2	52.8	54.8	56.0	6.0	7.1	8.3	9.5	10.6	20.8	22.0	24.0	39 8.35	+ 0.12	2.41	6 39 10.88	12.19
	B. A. C. 2251 . .	3	31.7	33.4	34.7	36.0	38.8	. .	49.3	52.0	53.5	55.0	56.6	45 14.10	— 0.11	2.41	6 45 16.40	10.61
	* — 31° 33′ . .	4	59.3	1.6	3.2	14.3	15.3	16.8	18.2	19.2	30.8	32.1	34.5	45 16.87	+ 0.17	2.41	6 45 19.45	10.61
	Lacaille 2519 . .	5	53.1	55.5	56.9	8.1	9.3	10.6	12.0	13.3	24.6	25.9	28.3	49 10.69	0.17	2.41	6 49 13.27	10.64
	Lacaille 2549 . .	6	36.7	38.9	40.3	51.4	52.7	54.0	55.3	56.6	7.9	9.3	11.6	52 54.06	+ 0.16	2.41	6 52 56.63	10.82
	Lacaille 2553 . .	7	. .	. .	. .	44.2	45.6	47.9	5.6	8.4	9.8	11.3	12.9	54 0.71	— 30.14	2.41	6 53 32.98	10.79
	Lacaille 2579 . .	8	. .	. .	. .	53.1	54.3	55.7	57.0	58.2	9.4	10.8	13.2	56 1.46	— 5.59	2.41	6 55 58.28	10.86
	Lacaille 2610 . .	†9	3.3	4.7	6.2	7.6	10.1	. .	42.3	43.5	44.9	46.2	47.4	0 25.62	+ 19.43	2.40	7 0 47.45	10.92
	δ Geminorum . . .	10	43.6	45.7	47.0	57.3	58.4	59.7	0.9	2.0	12.5	13.8	15.9	11 59.71	0.02	2.40	7 12 2.13	16.57
	* + 10° 25′ . .	11	. .	23.2	24.4	34.2	35.2	36.4	37.7	38.6	48.4	49.6	. .	17 36.41	0.06	2.40	7 17 38.87	15.31
	α Canis Minoris . .	12	55.5	57.6	58.8	8.5	9.4	10.6	11.7	12.7	22.4	23.6	25.6	32 10.58	+ 0.06	2.39	7 32 13.03	13.68
	β Geminorum . . .	13	42.6	44.8	46.0	57.0	58.0	. .	0.7	1.9	12.8	14.3	16.6	36 59.47	— 0.01	2.39	7 37 1.85	— 17.14
	λ Ursæ Minoris, S. P.	†14	. .	23.0	15.5	. .	. .	. .	. .	. .	. .	48.5	46.5	59 3.37	+ 5.33	2.38	7 59 11.08	+ 282.79
	η Cancri	†15	34.6	36.6	38.0	48.2	49.1	50.3	51.6	52.8	3.0	4.3	6.4	24 50.45	+ 0.02	2.36	8 24 52.83	— 16.40
	α Cygni	16	24.8	27.5	29.2	42.9	44.1	45.8	47.4	49.0	2.5	4.2	7.1	36 45.86	— 0.04	2.01	20 36 47.83	8.16
	ζ Cygni	17	49.8	52.1	53.6	4.5	5.7	7.0	8.5	9.6	20.6	22.1	24.5	7 7.08	0.00	2.00	21 7 9.08	10.45
R.	β Cephei	18	6.4	11.7	15.7	43.6	46.4	49.8	53.0	56.0	24.4	27.8	33.6	26 49.85	— 0.18	1.95	21 26 51.62	1.33
	ε Pegasi	19	13.6	15.7	17.0	26.5	27.6	28.7	30.0	31.1	40.7	41.9	44.0	37 28.80	+ 0.05	1.95	. . . .	12.20
16	Sun I	†20	26.8	28.9	30.0	39.8	40.7	41.9	43.1	44.0	53.6	55.0	57.0	45 41.89	0.07	1.88	23 45 43.84	. .
	Sun II	†21	35.9	37.9	39.1	48.8	49.7	50.9	52.0	53.0	3.0	4.1	6.0	47 50.95	0.07	1.88	23 47 52.90	. .
17	Sun I	22	6.4	8.3	9.6	19.2	20.1	21.2	22.3	23.3	33.2	34.3	36.4	49 21.30	0.08	1.24	23 49 22.62	. .
Y.	Sun II	23	15.4	17.3	18.7	28.2	29.3	30.4	31.6	32.7	42.2	43.5	45.5	51 30.44	0.08	1.24	23 51 31.76	. .
	β Arietis	24	51.3	53.4	54.7	4.8	5.8	7.1	8.4	9.6	19.8	21.0	23.3	47 7.20	0.10	1.21	1 47 8.51	13.75
	α Arietis	†25	13.6	16.0	17.3	27.6	28.8	30.0	31.3	32.4	42.9	44.1	46.5	59 30.05	+ 0.11	1.20	1 59 31.36	14.08
	* + 10° 25′ . .	26	35.3	36.3	37.6	38.8	39.8	. .	8.3	10.6	11.9	13.2	14.5	17 54.63	— 17.01	1.12	7 17 38.74	15.28
	O. Arg. S. 6810 .	27	16.5	18.7	20.1	30.7	31.8	33.2	34.6	35.7	46.4	47.7	50.0	20 33.22	+ 0.11	1.12	7 20 34.45	11.57
	Lacaille 2813 . .	28	12.8	15.0	16.4	27.0	28.1	29.5	30.8	32.0	42.8	44.2	46.3	22 29.54	0.11	1.12	7 22 30.77	11.59
	68 Geminorum . . .	29	36.0	37.9	39.3	49.2	50.2	51.6	52.7	53.8	3.9	5.0	7.1	25 51.52	+ 0.07	1.12	7 25 52.71	15.89
	Lacaille 2852 . .	30	. .	. .	. .	. .	. .	. .	53.8	56.6	58.1	59.6	1.3	28 57.88	— 40.04	1.12	7 28 18.96	10.86
	Lacaille 2859 . .	31	. .	. .	. .	20.1	21.5	23.9	42.1	45.0	46.3	48.0	49.4	29 37.04	— 30.95	1.12	7 29 7.21	10.87
	α Canis Minoris . .	32	56.9	58.8	59.9	9.4	10.4	11.7	12.9	13.9	23.6	24.8	26.8	32 11.74	+ 0.08	1.12	7 32 12.94	14.65
	β Geminorum . . .	33	43.7	45.9	47.3	58.2	59.3	0.6	2.0	3.1	14.1	15.4	17.7	37 0.66	+ 0.06	1.12	7 37 1.84	17.10
	B. A. C. 2581 . .	34	28.7	29.9	31.3	32.7	34.0	. .	7.8	10.7	12.2	13.7	15.4	40 51.64	— 20.12	1.12	7 40 32.64	10.92
	O. Arg. S. 7465 .	35	. .	. .	. .	58.2	59.2	0.6	1.9	3.0	. .	. .	. .	43 0.58	+ 0.16	1.12	7 43 1.86	11.81
	O. Arg. S. 7464 .	36	. .	. .	. .	12 1	13.5	15.7	32.7	35.3	36.7	38.3	39.6	43 27.99	— 29.00	1.12	7 43 0.11	11.81
	* — 26° 2′ . . .	37	. .	. .	. .	40.3	41.4	42.7	43.9	45.2	. .	. .	. .	46 42.70	+ 0.16	1.12	7 46 43.98	11.92
	* — 26° 2′ . . .	38	10.3	12.5	13.9	24.5	25.5	26.8	28.2	29.4	40.1	41.3	43.7	47 26.93	0.11	1.12	7 47 28.16	11.93
	* — 25° 58′ . .	39	3.9	6.1	7.5	18.0	19.1	20.6	21.8	22.9	. .	. .	. .	48 14.99	+ 5.66	1.11	7 48 21.76	11.94
	Lacaille 3041 . .	40	. .	. .	. .	. .	. .	. .	44.6	47.4	48.6	50.2	51.5	48 48.46	— 37.31	1.11	7 48 12.26	11.95
	* — 25° 49′ . .	41	. .	. .	. .	. .	. .	. .	5.4	8.2	9.6	11.1	12.5	49 9.36	— 37.27	1.11	7 48 33.20	11.96
	* — 28° 3′ . . .	42	41.3	43.5	44.9	55.6	56.8	58.1	59.5	0 6	11.7	13.0	15.4	53 58.22	+ 0.12	1.11	7 53 59.45	11.79
		43																
	Moon I		45.0	47.1	48.5	58.5	59.6	0.7	2.0	3.1	13.3	14.6	16.8	58 0.84	+ 0.07	1.11	7 58 2.02	. .
	O. Arg. S. 7951 .	44	. .	. .	. .	. .	. .	. .	7.4	10.0	11.5	12.9	14.5	0 11.26	— 38.56	1.11	7 59 33.81	11.70
	ζ Cancri (1st *) . .	45	10.0	12.1	13.3	23.3	24.4	25.7	27.0	28.0	38.2	39.5	41.6	4 25.74	+ 0.07	1.11	8 4 26.92	16.13
	ζ Cancri (2d *) . .	46	48.2	49.6	50.9	52.1	54.5	. .	57.8	0.3	1.6	2.9	4.3	4 26.22	— 0.18	1.11	8 4 27.15	16.13
	Lacaille 3316 . .	47	18.4	20.9	22.1	33.5	34.6	36.0	37.4	38.7	50.0	51.3	53.5	20 36.04	+ 0.12	1.11	8 20 37.27	11.77
	η Cancri	†48	35.7	37.8	39.1	49.3	50.4	51.7	52.9	54.0	4.4	5.6	7.8	24 51.70	0.07	1.11	8 24 52.88	16.37
R.	ζ Cygni	49	51.2	53.5	55.0	5.8	7.0	8.3	9.8	11.0	22.0	23.4	25.8	7 8.44	+ 0.11	+ 0.74	. . . .	— 10.50

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Mar. 17,	5.5 + 1.15	— 0.015	+ 0.080
	23.6 + 0.61	— 0.029	. .

9. Through clouds.
14. Cloudy.
15. Through clouds.
20–21. Through clouds.
25. Unsteady.
48. Through thin clouds.

s.
March 17, 23h. to 2h. n. = + 0.05.
7h. to 9h. — 0.05.

r.
March 17, 9h. 15m. Image east 0.10. Clamp east.
Image west 0.21. Clamp west.
Image east 0.10. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 17	β Cephei	1	6.8	13.0	16.4	44.0	47.0	50.5	53.9	57.0	24.8	28.6	34.8	26 50.62	+ 0.34	+ 0.67	21 26 51.73	— 1.41
R.	ε Pegasi	2	15.0	16.8	18.3	27.8	28.8	29.9	31.1	32.2	42.0	43.1	45.1	37 30.01	0.09	0.67	21 37 30.77	12.23
	Venus II	3	20.0	22.1	23.3	33.1	34.2	35.4	36.6	37.6	47.6	48.8	50.9	58 35.42	0.07	0.66	21 58 36.15	0.43
	Mercury II	4	11.7	13.6	15.0	24.5	25.6	26.8	28.0	29.0	38.8	40.0	42.1	3 26.83	0.08	0.62	23 3 27.53	0.18
18	Sun I	5	45.8	47.7	49.0	58.6	59.6	0.7	1.9	2.9	12.6	13.8	15.7	53 0.75	0.08	0.60	23 53 1.43	. .
	Sun II	6	54.7	56.6	58.0	7.4	8.4	9.7	10.9	12.0	21.6	22.7	24.6	55 9.69	0.08	0.60	23 55 10.37	. .
	Polaris	†7	42.0	1.0	52.0	16.0	58.0	50.0	34.0	17.0	. .	. .	. .	5 26.25	3 26.91	0.57	. .	50.52
	β Arietis	8	51.9	54.0	55.4	5.5	6.6	7.8	9.0	10.3	20.5	21.7	23.9	47 7.87	0.10	0.55	1 47 8.52	13.75
	α Arietis	9	14.6	16.7	17.9	28.3	29.3	30.7	31.8	33.0	43.5	44.8	47.0	59 30.69	0.10	0.54	1 59 31.33	14.07
Y.	ζ Cygni	10	51.8	54.1	55.5	6.4	7.6	9.0	10.4	11.5	22.6	23.9	26.3	7 9.01	0.11	0.13	. . . .	10.52
	Venus II	†11	5.8	7.8	9.1	18.9	19.8	21.2	22.4	23.5	33.4	34.6	36.7	2 21.20	0.07	0.12	22 2 21.39	0.43
19	Sun II	†12	33.4	35.3	36.8	46.4	47.5	48.6	49.7	50.8	0.3	1.5	3.4	58 48.52	0.08	0.08	23 58 48.68	64.48
	α Tauri	†13	30.9	32.2	33.5	34.8	37.2	52.7	54.9	56.0	20.6	21.8	23.9	28 52.59	15.78	0.01	. . . .	14.94
20	γ Leonis	†14	45.9	47.9	49.1	59.3	0.4	1.6	3.0	4.1	14.3	15.6	17.7	12 1.72	0.04	29.13	10 12 30.89	15.95
R.	Moon I	†15	47.9	49.9	51.1	0.7	1.9	3.2	4.5	5.5	15.4	16.5	18.4	20 3.18	0.07	29.13	10 20 32.38	. .
	30 Sextantis	†16	17.7	19.0	20.3	21.4	23.8	. .	51.5	52.5	53.7	54.9	56.1	22 37.09	16.69	29.13	10 23 22.91	14.93
	ρ Leonis	17	57.0	59.3	0.4	10.0	11.2	12.3	13.5	14.5	24.3	25.4	27.6	25 12.32	0.06	29.13	10 25 41.51	15.32
	36 Sextantis	†18	27.5	29.4	30.6	. .	. .	. .	. .	. .	54.3	55.5	57.4	37 42.45	0.03	29.13	10 38 11.61	15.06
	l Leonis	19	28.4	26.7	28.0	37.6	38.7	40.0	41.1	42.2	52.0	53.2	55.2	41 39.95	0.06	29.14	10 42 9.15	15.32
21	Sun I	20	11.8	13.7	15.0	24.2	25.5	26.8	27.9	29.0	38.7	40.0	41.9	3 26.77	0.08	29.45	0 3 56.30	. .
	Sun II	†21	21.1	22.9	23.9	33.5	34.6	35.9	37.1	38.2	47.9	48.9	50.9	5 35.90	0.08	29.45	0 6 5.43	. .
	* — 27° 45′	22	12.6	14.8	16.2	27.0	28.0	29.2	30.6	31.8	42.8	44.1	46.1	43 29.38	+ 0.15	29.71	8 43 59.24	12.64
	Lacaille 3567	23	. .	. .	. .	56.4	57.7	0.1	17.0	19.8	21.0	22.6	24.0	46 12.32	— 29.09	29.71	8 46 12.94	12.70
	* — 37° 45′	24	18.2	20.4	22.0	34.2	35.3	36.8	38.6	39.8	51.9	53.4	55.8	49 36.94	+ 0.19	29.71	8 50 6.84	11.59
	Lacaille 3621	25	9.1	11.2	12.5	23.3	24.3	25.7	26.9	28.1	39.0	40.3	42.7	53 25.74	0.14	29.71	8 53 55.59	12.62
	κ Cancri	26	40.3	42.1	43.4	53.1	54.1	55.3	56.6	57.9	7.5	8.6	10.5	59 55.40	+ 0.06	29.70	9 0 25.16	15.46
	O. Arg. S. 9489	27	46.4	48.0	49.3	50.6	53.3	. .	0.8	3.6	5.0	6.5	8.0	7 27.15	— 0.12	29.70	9 7 56.73	12.80
	O. Arg. S. 9496	28	30.5	32.9	34.2	44.9	46.0	47.4	48.8	50.0	. .	. .	. .	7 41.84	+ 5.77	29.70	9 8 17.31	12.80
	* — 27° 41′	29	15.6	17.7	19.1	29.9	31.0	32.4	33.8	35.0	45.8	47.3	49.5	9 32.46	0.15	29.70	9 10 2.31	12.82
	B. A. C. 3207	30	34.9	37.2	38.6	49.2	50.5	51.8	53.3	54.3	5.1	6.4	8.9	16 51.84	0.15	29.69	9 17 21.68	12.85
	α Hydræ	31	11.7	13.6	14.9	24.7	25.6	26.8	27.9	29.0	38.9	40.0	42.0	20 26.83	0.10	29.69	9 20 56.62	14.24
	Lacaille 3889	32	7.0	9.4	11.0	22.7	23.8	25.4	26.9	28.0	40.0	41.2	43.7	25 25.37	+ 0.18	29.69	9 25 55.24	12.53
	O. Arg. S. 9903	33	. .	. .	. .	. .	. .	. .	7.9	10.4	11.8	13.0	14.4	30 11.50	— 35.77	29.69	9 30 5.42	13.58
	* — 20° 24′	34	. .	. .	. .	44.6	45.7	46.9	48.2	49.3	59.5	0.7	2.7	31 52.20	— 5.16	29.69	9 32 16.73	13.60
	ε Leonis	35	24.0	26.2	27.4	37.9	39.0	40.5	41.6	42.7	53.7	54.8	57.1	37 40.44	+ 0.04	29.68	9 37 10.16	16.35
	* — 37° 32′	36	9.6	12.3	13.7	. .	. .	. .	. .	. .	43.6	45.2	47.7	41 28.68	+ 0.14	29.68	9 41 58.50	12.66
	μ Leonis	37	. .	. .	. .	. .	. .	. .	8.2	10.9	12.2	13.7	15.3	45 12.06	— 37.62	29.68	9 45 4.12	16.39
	* — 37° 46′	38	. .	. .	. .	11.5	13.0	14.6	16.0	17.2	29.3	30.8	33.7	47 20.76	— 6.08	29.68	9 47 44.36	12.79
	30 Sextantis	39	38.4	40.3	41.4	50.9	51.8	53.2	54.4	55.4	5.0	6.1	8.4	22 53.21	+ 0.08	29.66	10 23 22.95	14.93
	ρ Leonis	40	56.7	58.7	59.8	9.4	10.6	11.8	12.9	14.0	23.7	25.1	27.0	25 11.79	0.06	29.66	10 25 41.51	15.32
	Lacaille 4387	41	21.4	24.0	25.4	37.1	38.5	39.9	41.3	42.6	54.6	56.0	58.4	32 39.93	0.18	29.66	10 33 9.77	13.84
	36 Sextantis	42	27.0	28.9	30.2	39.8	40.7	41.8	43.1	44.2	53.7	54.9	57.0	37 41.94	0.07	29.65	10 38 11.66	15.06
	χ Leonis	43	18.0	19.8	21.1	30.9	31.9	33.1	34.1	35.4	45.0	46.1	48.4	57 33.07	+ 0.07	29.64	10 58 2.78	15.09
	Lacaille 4609	44	. .	. .	. .	12.9	14.1	15.5	16.8	18.1	29.2	30.5	32.9	1 21.25	— 5.53	29.64	11 1 45.36	14.52
	Moon I	45	13.4	15.4	16.9	26.6	27.6	28.7	29.9	31.0	40.5	41.9	44.0	6 28.72	+ 0.08	29.64	11 6 58.44	. .
	ϕ Leonis	46	2.7	4.8	6.1	15.7	16.7	17.8	19.0	20.1	29.5	30.9	32.9	9 17.84	0.09	29.64	11 9 47.57	14.97
	Iris	†47	36.8	38.3	39.4	40.6	42.9	. .	. .	. .	. .	. .	. .	28 39.60	33.45	29.63	11 29 42.68	. .
	γ Cephei, S. P.	48	21.0	12.1	7.1	25.2	20.0	15.5	10.1	4.9	22.4	16.6	8.9	33 14.89	0.12	29.63	. . . .	6.79
	β Leonis	49	24.9	27.2	28.3	38.0	39.9	40.1	41.4	42.5	52.7	53.7	55.9	41 40.34	+ 0.05	+29.62	11 42 10.01	— 14.99

7. Wind violent; star very unsteady.
11. Very unsteady.
12. Unsteady.
13. Faint; through clouds.
14. Through clouds.
15–16. Through clouds.
18. Faint; through clouds.
21. Cloudy; both limbs badly defined.
47. Faint; too near the moon.

s.
March 17–18, 21h. to 2h. n. = + 0.04.
18–19, 21h. to 4h. " + 0.04.
20–21, — 0.11.

March 21. Stars unsteady and faint through haze.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 18, 0.8	+ 0.07	— 0.017	+ 0.080
20, 10.4	29.13	+ 0.023	. .
21, 10.1	+ 29.67	— 0.030	+ 0.080

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 23 R.	Sun I	1	26.8	28.8	30.1	39.7	40.6	42.0	43.1	44.1	53.7	54.9	56.8	10 41.87	+ 0.08	+30.88	0 11 12.83	. .
	Sun II	2	35.5	37.6	38.9	48.4	49.4	50.6	51.8	52.9	2.5	3.7	5.7	12 50.64	0.08	30.88	0 13 21.60	. .
	Polaris	3	. .	. .	. .	49.0	29.0	20.0	5.0	49.0	. .	. .	. .	8 18.40	2.34	30.90	. . . .	— 49.53
	α Arietis	4	44.1	46.3	47.6	58.0	59.0	0.3	1.6	2.8	13.2	14.4	16.7	59 0.36	0.06	30.92	. . . .	14.04
	α Tauri	5	21.7	23.8	25.2	35.0	36.0	37.2	38.5	39.6	49.6	50.8	53.0	27 37.31	0.06	. .	. . . .	14.88
	δ Leonis	6	7.3	9.7	11.0	21.7	22.6	23.8	25.0	26.5	36.6	38.0	40.2	6 23.85	0.04	31.11	11 6 55.00	15.56
	Lacaille 4693	7	9.7	12.0	13.6	23.8	24.9	26.3	27.5	28.5	39.1	40.3	42.4	11 26.19	0.14	31.11	11 11 57.44	14.73
	O. Arg. S. 11344	8	6.9	9.2	10.4	20.6	21.7	23.0	24.2	25.5	35.8	37.2	39.5	15 23.09	0.14	31.11	11 15 54.34	14.78
	O. Arg. S. 11353	9	49.9	52.0	53.3	3.6	4.7	6.0	7.5	8.5	19.0	20.2	22.4	16 6.10	0.14	31.11	11 16 37.35	14.79
	O. Arg. S. 11394	10	50.9	53.5	54.7	4.9	5.9	7.2	8.5	9.6	20.2	21.5	23.6	20 7.31	0.14	31.12	11 20 38.57	14.84
	O. Arg. S. 11410	11	53.1	54.9	56.6	6.9	7.9	9.3	10.5	11.7	22.2	23.5	25.6	21 9.29	0.14	31.12	11 21 40.55	14.85
	Weisse 450	12	59.3	1.3	2.5	12.3	13.2	14.4	15.6	16.5	26.1	27.3	29.4	26 14.35	+ 0.09	31.12	11 26 45.56	14.99
	* — 5° 45′	13	. .	. .	. .	47.9	49.0	50.3	51.5	52.5	2.3	3.4	5.1	27 55.25	— 4.89	31.12	11 28 21.48	14.99
	* — 27° 44′	14	43.2	45.8	47.6	58.0	59.1	0.6	2.1	3.1	14.0	15.5	17.8	33 0.62	+ 0.16	31.12	11 33 31.90	15.02
	Lacaille 4890	15	42.6	45.0	46.2	57.2	58.3	59.9	1.3	2.5	13.4	15.0	17.1	39 59.86	0.17	31.12	11 40 31.15	15.14
	13 Virginis	16	58.7	0.5	1.8	11.3	12.3	13.6	14.8	15.8	25.4	26.5	28.5	11 13.56	0.08	31.13	12 11 44.77	15.06
	η Virginis	17	13.4	15.5	16.8	26.2	27.1	28.2	29.6	30.5	40.3	41.5	43.5	12 28.42	0.08	31.14	12 12 59.64	15.05
	Lacaille 5143	18	25.1	27.4	28.5	39.2	40.3	41.5	42.9	43.9	54.5	55.9	58.4	17 41.60	0.15	31.14	12 18 12.89	15.58
	* — 29° 17′	19	53.9	56.1	57.6	8.4	9.6	11.1	12.4	13.6	24.8	26.0	28.3	36 11.07	+ 0.16	31.14	12 26 42.37	— 15.83
	Saturn I	20	. .	. .	. .	18.2	19.6	21.3	36.6	39.1	40.2	41.5	43.0	1 32.44	— 25.98	31.15	13 1 37.61	+ 0.60
	Polaris, S. P.	†21	. .	. .	. .	49.0	7.0	24.0	28.0	49.0	. .	. .	. .	8 19.40	+ 0.10	31.15	. . . .	. .
	α Virginis	22	18.5	20.4	21.5	31.4	32.4	33.6	34.9	35.8	45.6	46.9	49.0	17 33.64	0.10	31.16	13 18 4.90	— 15.46
Y.	ζ Cygni	23	20.5	22.9	24.3	35.2	36.5	37.9	39.1	40.4	51.5	52.8	55.1	6 37.84	0.08	31.52	21 6 9.44	10.64
	β Cephei	†24	36.6	42.4	46.4	13.9	16.6	20.3	23.5	26.9	54.9	58.2	4.2	26 20.35	0.18	31.52	21 26 52.05	1.69
	ε Pegasi	25	44.0	46.3	47.5	57.0	58.0	59.3	0.5	1.5	11.3	12.5	14.5	36 59.31	+ 0.08	31.52	21 37 30.91	12.35
	Venus II	26	. .	. .	. .	. .	. .	. .	55.2	57.6	59.0	0.2	1.7	25 58.74	— 34.29	31.53	22 25 55.98	0.42
	α Pegasi	27	26.6	27.7	28.9	30.2	31.3	. .	0.1	2.6	3.9	5.1	6.6	57 46.30	17.27	31.54	22 58 0.57	12.30
	Mercury I	28	10.7	12.7	13.9	. .	. .	. .	. .	. .	37.5	38.7	40.6	42 25.68	+ 0.04	31.55	23 42 57.27	. .
	Mercury II	29	. .	. .	. .	23.6	24.8	26.1	27.3	28.3	. .	. .	. .	42 26.02	+ 0.13	31.55	23 42 57.70	. .
	Mercury (centre)	30	49.8	51.2	52.5	53.7	55.8	56.2	56.2	58.8	59.9	1.1	2.5	42 26.15	— 0.16	31.55	23 42 57.54	. .
24	Sun I	31	3.9	5.9	7.2	16.8	17.7	18.8	20.0	21.0	30.8	32.0	34.0	14 18.92	+ 0.08	31.56	0 14 50.56	. .
	Sun II	32	12.7	14.7	16.0	25.6	26.6	27.7	28.8	29.8	39.7	40.8	42.9	16 27.75	0.08	31.56	0 16 59.39	. .
	Polaris	33	. .	. .	. .	44.0	22.5	12.0	1.0	43.0	. .	. .	. .	8 12.50	6.80	31.57	. . . .	109.38
	β Arietis	34	20.8	22.9	24.4	34.4	35.5	36.8	38.0	39.1	49.4	50.7	52.8	46 36.80	0.10	31.58	1 47 8.48	54.71
	α Arietis	†35	43.5	45.6	46.9	57.3	58.3	59.5	0.8	1.9	12.4	13.7	15.9	58 59.62	0.10	31.58	1 58 31.30	14.03
	χ Leonis	36	15.5	17.5	18.7	28.3	29.4	30.6	31.7	32.8	42.5	43.7	45.8	57 30.59	0.09	32.08	10 58 2.76	15.09
	ψ Ursæ Majoris	37	10.3	12.9	14.6	28.1	29.5	31.4	33.0	34.6	48.3	50.0	52.8	1 31.41	0.05	32.08	11 2 3.54	16.64
	p^5 Leonis	38	3.4	5.4	6.5	16.1	17.1	18.3	19.5	20.6	30.2	31.4	33.4	6 18.35	0.08	32.09	11 6 50.52	15.02
	σ Leonis	39	22.8	24.9	26.1	35.6	36.6	37.8	39.0	40.2	49.9	51.1	53.2	13 37.93	0.07	32.09	11 14 10.09	15.12
	83 Leonis, (1st *)	40	7.8	9.9	11.1	20.5	21.6	22.7	24.0	25.0	34.6	35.8	37.9	19 22.81	+ 0.08	32.09	11 19 54.98	15.08
	83 Leonis, (2d *)	41	47.9	49.2	50.4	51.5	53.9	. .	54.0	56.5	57.8	59.0	0.5	19 24.07	— 0.16	32.09	11 19 56.00	15.08
	Iris	42	16.0	18.0	19.2	28.7	29.8	30.9	32.1	33.1	42.7	43.8	46.1	26 30.95	+ 0.09	32.09	11 27 3.13	. .
	v Leonis	43	14.6	16.8	18.0	27.5	28.6	29.7	30.8	32.0	41.6	42.8	44.8	29 29.75	0.08	32.09	11 30 1.92	15.04
	o Virginis	44	32.3	34.3	35.5	45.2	46.2	47.5	48.6	49.7	59.4	0.6	2.7	57 47.45	+ 0.07	32.10	11 58 19.62	14.98
	κ Draconis	45	27.1	32.8	36.5	5.0	7.9	11.6	15.1	18.4	47.3	51.0	56.9	27 11.78	— 0.07	32.10	12 27 43.81	14.53
	χ Virginis	46	. .	. .	. .	56.2	57.4	59.5	14.8	17.2	18.5	19.8	21.1	32 10.56	26.14	32.10	12 32 16.52	15.23
	Saturn I	47	12.9	14.3	15.4	16.6	19.0	. .	19.3	21.5	22.7	23.9	25.3	0 49.09	— 0.17	32.11	13 1 21.03	. .
	Saturn II	48	35.1	36.9	38.2	47.8	48.9	50.0	51.1	52.3	1.9	3.0	5.2	0 50.04	+ 0.07	32.11	13 1 22.22	. .
	50 Virginis	49	. .	. .	. .	6.8	7.8	9.0	10.1	11.1	21.0	22.2	24.2	2 14.02	— 4.93	32.11	13 2 41.20	15.40
	Polaris, S. P.	†50	. .	. .	. .	51.0	11.0	18.5	31.0	50.0	. .	. .	. .	8 20.30	— 0.72	+32.11	. . . .	— 49.33

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Mar. 23, 9.6	+ 31.08	+ 0.021	+ 0.080
23, 23.5	31.55	0.014	+ 0.080
24, 12.3	+ 32.10	+ 0.012	. .

21. Exceedingly unsteady.
24. Faint and unsteady.
35. Unsteady.
50. Through haze.

r.
March 23, 10h. 45m. Image east 0.09. Clamp east.

s.
March 23, 0h. to 4h. n. = — 0.07.
11h. to 14h. 0.13.
23–24, 21h. to 23h. — 0.02.
23h. to 2h. + 0.04.
10h. to 12h. — 0.06.
12h. to 16h. — 0.11.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 24	α Virginis	1	17.3	19.4	20.7	30.3	31.3	32.5	33.7	34.8	44.6	45.8	47.8	17 32.56	+ 0.10	+32.11	13 18 4.77	— 15.48
	B. A. C. 4496	2	33.7	35.8	37.0	46.5	47.5	48.8	50.0	51.0	0.6	1.7	3.8	20 48.76	+ 0.08	32.11	13 21 20.95	15.03
	71 Virginis	3	..	..	..	..	..	..	30.0	32.6	33.7	35.0	36.4	22 33.54	— 34.28	32.11	13 22 31.37	14.52
	ζ Virginis	4	1.5	3.5	4.8	14.2	15.2	16.5	17.6	18.7	28.3	29.5	31.5	27 16.48	+ 0.08	32.11	13 27 48.67	14.94
	Moon II	†5	10.7	12.8	14.0	24.0	25.1	26.3	27.5	28.5	38.7	39.9	42.1	33 26.33	0.11	32.12	13 33 58.56	..
27	κ Libræ	6	22.3	24.4	25.8	36.0	36.9	38.2	39.4	40.6	50.8	51.9	54.1	33 38.22	0.16	31.24	15 34 9.62	16.54
	α Serpentis	7	50.3	52.4	53.5	3.2	4.1	5.3	6.5	7.5	17.2	18.5	20.4	37 5.35	0.06	31.24	15 37 36.65	14.13
	ε Serpentis	8	18.2	20.2	21.5	31.2	32.1	33.2	34.4	35.5	45.2	46.3	48.5	43 33.30	+ 0.06	31.23	15 44 4.59	14.28
	O. Arg. S. 15023	9	..	..	..	37.5	38.8	41.2	58.0	0.6	1.9	3.1	4.8	48 53.24	— 28.68	31.23	15 47 55.79	17.26
	π Scorpii	10	52.7	54.9	56.2	6.6	7.6	9.2	10.4	11.6	22.4	23.7	25.7	50 9.18	+ 0.14	31.23	15 50 40.55	17.29
	β Scorpii	11	47.4	49.5	50.9	0.9	1.9	3.2	4.5	5.6	15.9	16.9	19.3	57 3.27	+ 0.16	31.22	15 57 34.65	16.57
	B. A. C. 5330	12	25.4	26.7	28.2	29.6	31.9	..	35.8	38.4	39.5	40.9	42.1	57 3.85	— 0.09	31.22	15 57 34.98	16.58
	B. A. C. 5364	13	12.0	14.4	15.9	26.6	27.5	28.9	30.2	31.5	42.2	43.4	45.9	1 28.95	+ 0.19	31.22	16 2 0.36	17.41
	c^2 Scorpii	14	10.3	12.5	13.9	24.7	25.8	27.0	28.4	29.6	40.5	41.9	44.0	3 27.14	0.20	31.22	16 3 58.56	17.54
	O. Arg. S. 15416	15	44.5	46.7	48.0	58.2	59.2	0.6	1.8	2.9	13.3	14.5	16.6	6 0.57	0.16	31.22	16 6 31.95	16.72
	O. Arg. S. 15466	16	13.3	15.5	16.8	27.1	28.1	29.4	30.6	31.7	42.2	43.3	45.5	8 29.41	0.16	31.21	16 9 0.78	16.74
	σ Scorpii	17	10.2	12.5	13.8	24.5	25.5	26.8	28.0	29.2	39.9	41.2	43.4	12 26.82	0.18	31.21	16 12 58.21	17.25
	Moon II	18	50.1	51.7	53.0	54.2	56.9	..	2.8	5.4	6.8	8.2	9.7	} 17 29.74	0.04	31.21	16 18 0.99	..
		19	13.2	15.5	16.8	27.2	28.2	29.5	30.8	32.1	42.5	43.8	46.2					
	α Scorpii	20	19.0	21.3	22.6	33.0	34.3	35.6	37.0	38.2	48.8	50.1	52.4	20 35.66	0.19	31.21	16 21 7.06	17.35
	β Lyræ	21	15.6	18.2	19.5	30.9	32.0	33.5	35.0	36.2	47.5	49.0	51.6	44 33.55	0.04	31.11	18 45 4.62	9.95
R.	Venus II	22	47.0	49.0	50.3	59.8	1.0	2.2	3.3	4.5	14.4	15.5	17.5	44 2.23	+ 0.11	30.95	22 44 33.29	0.41
28	Sun I	†23	..	..	..	49.0	50.1	51.4	52.6	53.6	3.3	4.4	6.4	28 56.35	— 4.91	30.88	0 29 22.32	..
	Sun II	24	45.2	47.3	48.5	58.0	59.0	0.1	1.4	2.4	12.3	13.5	15.3	30 0.27	+ 0.07	30.88	0 30 31.22	..
Y. 31	Moon II	25	58.3	59.7	1.0	2.2	4.8	..	8.7	11.3	12.6	14.0	15.3	} 17 36.65	— 0.01	31.03	20 17 7.67	..
		26	20.6	22.8	24.0	34.2	35.3	36.4	37.7	38.8	49.0	50.5	52.5					
	α Cygni	27	56.2	58.8	0.7	14.0	15.3	17.1	18.9	20.3	33.8	35.5	38.5	36 17.19	+ 0.01	31.03	..	8.65
April 6	ε Hydræ	28	1.8	2.8	4.1	5.3	6.3	..	34.5	36.9	38.2	39.5	40.8	39 21.02	— 16.84	32.29	8 39 36.47	14.84
	* — 41° 18′	29	59.0	1.6	3.1	16.0	17.2	19.0	20.6	22.0	34.7	36.4	38.9	44 18.95	+ 0.22	32.29	8 44 51.46	10.74
	* — 41° 14′	30	21.7	24.0	25.8	38.6	39.9	41.5	43.0	44.3	57.3	58.7	1.5	45 41.48	0.22	32.29	8 46 13.99	10.78
	* — 30° 0′	31	9.4	11.7	13.2	24.2	25.3	26.7	28.0	29.3	40.5	41.7	44.2	49 26.75	0.17	32.29	8 49 59.21	12.04
	Lacaille 3621	32	6.1	8.3	9.6	20.4	21.6	..	24.2	25.4	36.1	37.4	39.7	53 22.88	0.16	32.29	8 53 55.33	12.16
	* — 30° 28′	33	5.7	8.0	9.4	20.5	21.7	23.0	24.4	25.6	36.7	38.1	40.4	56 23.05	0.17	32.29	8 56 55.51	12.12
	O. Arg. S. 9321	34	16.7	18.8	20.1	30.6	31.6	32.9	34.3	35.4	46.9	47.3	49.4	58 33.09	0.15	32.29	8 59 5.53	12.73
	O. Arg. S. 9344	35	42.5	44.6	46.0	56.4	57.5	59.0	0.2	1.2	11.6	12.9	15.1	59 58.82	+ 0.15	32.29	9 0 31.26	12.75
	Weisse (2) 10	36	..	..	..	..	..	..	28.2	30.8	32.3	33.6	35.3	2 32.04	— 37.70	32.29	9 2 26.63	16.56
	B. A. C. 3143	37	33.6	36.1	37.8	49.9	51.2	52.7	54.3	55.5	8.1	9.5	12.0	5 52.79	+ 0.21	32.29	9 6 25.29	11.52
	O. Arg. S. 9509	38	28.8	31.2	32.5	43.5	44.7	46.1	47.4	48.6	59.7	1.1	3.4	8 46.09	0.17	32.29	9 9 18.55	12.39
	83 Cancri	39	37.4	39.5	40.8	50.9	51.9	53.2	54.4	55.5	5.7	6.8	9.0	10 53.19	0.06	32.29	9 11 25.54	15.76
	O. Arg. S. 9692	40	36.9	39.1	40.5	51.3	52.4	53.7	55.0	56.2	7.4	8.6	10.9	18 53.82	+ 0.17	32.29	9 19 26.28	12.66
	* — 27° 46′	41	..	..	..	26.0	27.3	29.6	46.8	49.4	50.9	52.3	53.8	20 42.01	— 29.23	32.29	9 20 45.07	12.74
	* — 27° 47	42	..	..	..	14.0	15.5	17.6	34.9	37.6	38.9	40.4	41.9	21 30.10	29.23	32.29	9 21 33.16	12.75
	ε Antliæ	43	..	..	..	..	..	..	44.9	47.8	49.4	51.0	52.6	23 49.14	— 41.04	32.29	9 23 40.39	12.21
	* — 35° 19′	44	43.8	46.4	47.9	59.5	0.7	2.1	3.7	4.9	16.7	18.2	20.6	25 2.23	+ 0.20	32.29	9 25 34.72	12.25
	Lacaille 3905	45	..	..	..	..	..	..	56.4	59.6	1.0	2.7	4.5	28 0.84	— 42.53	32.29	9 27 50.60	12.07
	O. Arg. S. 9931	46	35.4	37.8	39.3	50.3	51.4	52.8	54.2	55.4	6.6	8.0	10.3	30 52.87	+ 0.17	32.29	9 31 25.33	12.72
	* — 35° 20′	47	8.7	11.0	12.6	24.2	25.3	26.8	28.4	29.7	41.5	43.0	45.4	34 26.96	+ 0.20	32.29	9 34 59.45	12.44
	* — 35° 24′	48	..	..	..	56.6	57.8	59.4	0.7	1.9	13.6	15.2	17.5	35 5.34	— 5.88	32.29	9 35 31.75	12.45
	Brisbane 2651	49	51.4	53.9	55.5	8.0	9.1	10.7	12.2	13.5	26.4	27.7	30.5	40 10.81	+ 0.22	+32.29	9 40 43.32	— 12.21

5. Through clouds.
23. Badly defined.

		s.
March 27,	n. =	— 0.20.
31,		0.10.
April 6, 8h. to 11h.		0.12.
11h. to 14h.		— 0.15.

		r.	
April 6, 13h. 40m.	Image east	0.20.	Clamp east.
	Image west	0.15.	Clamp west.
	Image east	0.16.	Clamp east.

March 27. Wire C very slack.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Mar. 27, 16.5	+ 31.20	— 0.040	+ 0.080
31, 20.6	31.03	..	..
April 6, 11.2	+ 32.29	+ 0.001	+ 0.090

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 6	Brisbane 2657	1	. .	. .	. .	49.6	51.2	53.6	13.7	16.6	18.3	20.0	21.8	41 8.10	— 33.77	+32.29	9 41 6.62	— 12.22
Y.	Lacaille 4036	2	57.5	0.0	1.4	13.4	14.7	16.0	17.4	18.7	30.8	32.2	34.8	43 16.08	+ 0.20	32.29	9 43 48.57	12.55
	* — 37° 32′	3	7.8	10.3	11.8	23.8	25.0	26.5	28.1	29.3	41.6	43.2	45.6	45 26.64	0.21	32.29	9 45 59.14	12.52
	* — 27° 48′	4	28.9	31.1	32.6	43.4	44.5	45.8	47.2	48.3	59.3	0.7	2.7	47 45.86	0.17	32.29	9 48 18.32	13.20
	O. Arg. S. 10219	5	19.0	21.2	22.6	33.4	34.6	35.9	37.2	38.3	49.4	50.8	53.0	48 35.95	0.17	32.29	9 49 8.41	13.21
	* — 30° 1′	6	26.5	28.8	30.2	41.1	42.3	43.6	45.0	46.2	57.4	58.8	1.2	52 43.74	0.17	32.29	9 53 16.20	13.16
	Weisse 1243	7	34.7	36.8	38.0	47.8	48.7	50.0	51.2	52.3	2.3	3.5	5.5	57 50.07	0.06	32.29	9 58 22.42	15.40
	Weisse 1279	8	32.5	34.6	35.8	45.6	46.7	47.9	49.0	50.2	0.2	1.5	3.5	59 47.95	0.06	32.29	10 0 20.30	15.40
	O. Arg. S. 10634	9	8.9	11.1	12.5	23.6	24.7	26.0	27.4	28.7	40.0	41.2	43.5	20 26.14	0.17	32.29	10 20 58.60	13.65
ρ	Leonis	10	54.0	56.0	57.2	6.8	7.9	9.0	10.2	11.2	21.2	22.3	24.4	25 9.11	0.07	32.29	10 25 41.47	15.20
	Lacaille 4363	11	27.3	29.6	30.9	41.7	42.9	44.2	45.6	46.8	57.6	59.0	1.4	29 44.27	0.17	32.29	10 30 16.73	13.91
	Lacaille 4384	12	56.3	58.9	0.7	12.9	14.4	15.9	17.5	18.9	31.4	32.9	35.5	32 15.94	0.22	32.29	10 32 48.45	13.54
	* — 35° 45′	13	57.8	0.2	1.8	13.5	14.9	16.2	17.7	19.1	30.9	32.2	34.7	35 16.27	0.20	32.29	10 35 48.76	13.76
	O. Arg. S. 10872	14	16.3	18.3	19.7	30.4	31.7	33.0	34.3	35.5	46.3	47.6	49.7	39 32.98	+ 0.16	32.29	10 40 5.43	14.10
	O. Arg. S. 10874	15	52.8	54.2	55.8	57.2	59.8	. .	7.4	10.1	11.5	12.8	14.4	39 33.60	— 0.11	32.29	10 40 5.78	14.10
	O. Arg. S. 10906	16	. .	. .	. .	13.9	15.0	16.4	17.6	18.8	29.5	30.9	33.0	42 21.89	— 5.36	32.29	10 42 48.82	14.18
	O. Arg. S. 10933	17	41.0	43.1	44.5	54.8	56.0	57.2	58.5	59.6	10.3	11.5	13.7	44 57.29	+ 0.15	32.29	10 45 29.73	14.28
	* — 30° 26′	18	0.4	2.8	4.2	15.3	16.5	17.9	19.3	20.5	31.6	32.9	35.3	47 17.88	0.17	32.29	10 47 50.34	14.16
	O. Arg. S. 11003	19	38.8	41.0	42.5	53.5	54.5	55.8	57.3	58.6	9.8	11.3	13.5	49 56.05	0.17	32.29	10 50 28.51	14.21
	* — 35° 47′	20	0.9	3.0	4.6	16.4	17.6	19.0	20.5	21.8	34.0	35.3	37.8	52 19.17	0.20	32.29	10 52 51.66	14.14
	O. Arg. S. 11069	21	3.4	5.5	6.8	17.3	18.5	19.8	21.2	22.4	33.1	34.5	36.7	55 19.94	0.16	32.29	10 55 52.39	14.39
	* — 27° 45′	22	6.8	9.0	10.3	21.3	22.3	23.6	24.9	26.1	37.2	38.5	40.6	0 23.69	0.18	32.29	11 0 56.16	14.45
	O. Arg. S. 11154	23	7.4	9.4	10.8	21.4	22.4	23.8	25.0	26.2	36.8	38.1	40.5	3 23.89	0.17	32.29	11 3 56.35	14.54
	Lacaille 4638	24	33.7	36.0	37.3	48.1	49.0	50.3	51.6	52.8	3.4	4.8	7.0	4 50.36	0.17	32.29	11 5 22.82	14.56
	O. Arg. S. 11250	25	11.5	13.7	15.1	25.7	26.7	28.0	29.2	30.6	41.3	42.6	44.8	7 28.11	0.17	32.29	11 8 0.57	14.60
δ	Crateris	26	47.6	49.7	50.8	0.5	1.6	2.9	4.0	5.2	15.1	16.3	18.5	12 2.93	0.13	32.29	11 12 35.35	14.75
	Iris	27	17.2	19.2	20.5	30.1	31.2	32.3	33.5	34.6	44.3	45.4	47.5	16 32.35	0.10	32.29	11 17 4.74	. .
	* — 34° 48′	28	30.5	33.0	34.5	46.1	47.3	48.8	50.3	51.6	3.2	4.6	7.0	20 48.81	0.22	32.29	11 21 21.32	14.78
	O. Arg. S. 11446	29	33.1	35.3	36.6	47.5	48.6	50.0	51.2	52.5	3.4	4.7	7.0	23 49.99	+ 0.18	32.29	11 24 22.46	14.84
	Lacaille 4777	30	. .	. .	. .	40.7	41.9	43.4	44.9	46.3	58.3	59.6	2.1	25 49.65	— 5.86	32.29	11 26 16.08	14.90
	* — 35° 27′	31	52.4	54.8	56.3	8.0	9.2	10.6	12.1	13.5	25.3	26.6	29.3	27 10.74	+ 0.22	32.29	11 27 43.25	14.92
	O. Arg. S. 11531	32	19.9	21.4	22.7	24.0	26.5	. .	32.7	35.6	36.7	38.2	39.8	30 59.75	— 0.09	32.29	11 31 31.95	14.96
	* — 24° 52′	33	44.6	46.8	48.0	58.7	59.8	1.0	2.4	3.5	. .	. .	. .	30 55.60	+ 5.67	32.29	11 31 33.56	14.97
	* — 35° 11′	34	38.9	40.8	42.6	54.5	55.8	57.2	58.6	59.9	11.7	13.0	15.6	20 57.15	0.22	32.29	12 21 29.66	16.04
	* — 35° 5′	35	53.0	55.3	57.0	8.6	9.8	11.4	12.8	14.0	25.8	27.3	29.8	22 11.35	0.22	32.29	12 22 43.86	16.06
β	Corvi	36	29.4	31.6	32.8	43.1	44.3	45.5	46.9	47.9	58.5	59.6	1.8	26 45.58	+ 0.16	32.29	12 27 18.03	15.65
	Lacaille 5220	37	. .	. .	. .	7.2	8.3	9.6	11.1	12.3	23.6	25.1	27.5	29 15.59	— 5.61	32.29	12 29 42.27	16.03
	Lacaille 5234	38	8.4	10.8	12.3	24.3	25.6	27.2	28.5	29.8	42.0	43.4	45.9	32 27.11	+ 0.23	32.29	12 32 59.63	16.37
	* — 35° 16′	39	5.7	8.3	9.6	21.2	22.4	23.9	25.2	26.6	38.5	39.8	42.4	35 23.96	0.22	32.29	12 35 56.47	16.33
	* — 37° 5′	40	28.0	30.5	31.9	43.9	45.0	46.5	48.2	49.5	1.4	3.0	5.5	37 46.67	0.23	32.29	12 38 19.19	16.48
	Lacaille 5284	41	11.5	13.9	15.5	26.6	27.8	29.1	30.6	31.7	43.0	44.5	46.9	40 29.19	0.20	32.29	12 41 1.68	16.23
	Weisse 764	42	45.4	47.3	48.6	58.1	59.1	0.3	1.5	2.5	12.2	13.3	15.3	45 0.33	0.09	32.29	12 45 32.71	15.12
	O. Arg. S. 12529	43	29.5	31.7	33.1	43.6	44.8	46.2	47.5	48.7	59.4	0.7	2.9	48 46.19	+ 0.18	32.29	12 49 18.66	16.12
	O. Arg. S. 12533	44	16.5	18.3	19.7	21.2	23.7	. .	30.8	33.6	34.9	36.4	37.7	48 57.28	— 0.08	32.29	12 49 29.49	16.12
	Saturn I	45	53.5	55.6	56.8	6.4	7.3	8.4	9.7	10.8	20.5	21.5	23.6	57 8.55	+ 0.10	32.29	12 57 40.94	. .
	Saturn II	46	33.7	35.1	36.4	37.6	39.7	. .	40.0	42.4	43.7	44.9	46.2	57 9.97	— 0.14	32.29	12 57 42.12	. .
θ	Virginis	47	10.2	12.0	13.4	22.9	24.0	25.2	26.3	27.3	37.0	38.2	40.3	2 25.16	+ 0.10	32.29	13 2 57.55	15.31
	Polaris, S. P.	48	. .	. .	. .	48.0	8.0	19.0	30.0	47.0	. .	. .	. .	8 18.40	0.51	32.29	. . . .	48.75
	* — 34° 55′	49	30.9	33.3	34.7	46.5	47.6	48.9	50.5	51.8	3.6	5.0	7.2	18 49.09	0.22	32.29	13 19 21.60	17.10
71	Virginis	50	44.0	46.0	47.3	56.9	58.0	59.2	0.4	1.5	11.3	12.5	14.6	21 59.25	+ 0.06	+32.29	13 22 31.60	— 14.67

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 6, 11.2	+ 32.29	+ 0.001	+ 0.090

April 6-7, 23h. to 2h. n. = 0.00.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 6	ζ Virginis	1	1.4	2.5	4.6	14.3	15.2	16.5	17.6	18.6	28.5	29.5	31.5	27 16.38	+ 0.09	+32.29	13 27 48.76	— 15.06
Y.	Venus II	†2	33.6	35.8	37.0	46.2	47.5	48.8	49.9	51.0	0.8	2.0	4.0	29 48.78	0.09	32.29	23 30 21.16	0.39
	α Andromedæ	†3	9.0	10.6	12.1	13.4	15.9	. .	. .	26.9	28.3	29.7	31.2	1 46.32	3.61	32.32	. . . .	12.80
7	Sun II	†4	10.4	12.6	13.8	23.4	24.5	25.6	26.7	27.8	37.7	38.9	41.0	7 25.67	+ 0.09	32.32	1 7 58.08	64.61
	6 Cancri	5	. .	. .	. .	52.7	54.1	56.3	13.4	16.1	17.6	19.1	20.6	55 8.74	— 29.45	32.44	7 55 11.73	— 16.84
	λ Ursæ Minoris, S. P.	6	. .	. .	. .	58.0	7.0	6.0	5.0	9.5	. .	. .	. .	59 5.10	— 1.96	32.44	7 59 35.58	+ 258.96
	O. Arg. S. 8199	7	37.7	39.7	41.3	52.3	53.3	54.7	56.1	57.3	8.4	9.8	12.3	5 54.81	+ 0.16	32.44	8 6 27.09	— 11.35
	O. Arg. S. 8292	8	29.0	31.2	32.7	43.2	44.3	45.6	46.7	48.0	58.6	59.9	2.1	9 45.57	0.15	32.44	8 10 18.16	11.94
	O. Arg. S. 8348	9	8.2	10.3	11.7	. .	. .	. .	. .	. .	37.7	39.0	41.2	11 24.68	0.11	32.44	8 11 57.23	11.95
	O. Arg. S. 8343	10	48.5	49.8	50.1	52.4	55.0	. .	. .	. .	. .	. .	. .	10 51.16	36.71	32.44	8 12 0.31	11.95
	O. Arg. S. 8346	11	20.3	22.5	23.8	. .	. .	. .	. .	. .	49.7	51.2	53.3	11 36.80	0.11	32.44	8 12 9.35	11.95
	Lacaille 3279	12	41.5	43.9	45.3	56.0	57.2	58.5	59.7	0.8	12.0	13.2	15.5	15 58.51	+ 0.16	32.44	8 16 31.11	11.67
	Lacaille 3299	13	37.0	38.1	39.5	40.8	42.1	. .	14.4	17.4	18.6	20.1	21.6	17 58.96	— 19.23	32.44	8 18 12.17	11.51
	* — 31° 32′	14	34.6	37.0	38.3	49.6	50.7	52.1	53.5	54.8	6.0	7.4	9.8	20 52.16	+ 0.17	32.45	8 21 24.78	11.39
	Lacaille 3331	15	22.2	24.6	26.0	37.2	38.4	39.7	41.2	42.4	53.7	55.0	57.4	21 39.80	0.17	32.45	8 22 12.42	11.41
	* — 31° 15′	16	45.2	47.7	49.0	0.2	1.3	2.7	4.0	5.2	16.5	17.9	20.4	25 2.74	+ 0.17	32.45	8 25 35.36	11.49
	* — 31° 5′	17	. .	. .	. .	0.4	1.6	3.0	4.5	5.5	16.9	18.2	20.5	26 8.82	— 5.62	32.45	8 26 35.65	11.52
	* — 30° 48′	18	55.2	57.5	58.8	9.9	11.1	12.6	14.0	15.2	26.4	27.7	30.0	29 12.58	+ 0.17	32.45	8 29 45.20	11.60
	b Mali	19	57.8	0.3	1.8	13.4	14.6	16.0	17.5	18.7	30.5	32.0	34.4	34 16.09	+ 0.18	32.45	8 34 48.72	11.26
	* — 32° 40′	20	. .	. .	. .	. .	. .	. .	12.0	14.9	16.4	17.8	19.5	38 16.12	— 39.80	32.45	8 38 8.77	11.56
	a Mali	21	. .	. .	. .	34.4	35.6	37.0	38.4	39.7	51.0	52.4	54.9	37 42.92	— 5.72	32.45	8 38 9.65	11.55
	Lacaille 3531	22	34.2	36.5	37.9	49.2	50.4	51.8	53.2	54.6	6.1	7.5	9.9	41 51.94	+ 0.17	32.45	8 42 24.56	11.61
	Lacaille 3564	23	50.0	52.3	53.8	5.2	6.4	7.9	9.4	10.6	22.3	23.8	26.1	45 7.98	0.18	32.45	8 45 40.61	11.56
	* — 30° 1′	24	9.3	11.6	12.9	24.0	25.0	26.5	27.9	29.0	40.2	41.4	43.9	49 26.52	0.16	32.45	8 49 59.13	12.00
	Lacaille 3617	25	21.9	24.2	25.6	36.6	37.8	39.3	40.6	41.7	53.1	54.6	57.0	52 39.31	0.17	32.45	8 53 11.93	11.94
	* — 30° 29′	26	5.4	7.7	9.2	20.1	21.3	22.9	24.2	25.4	36.5	37.8	40.2	56 22.79	0.16	32.46	8 56 55.41	12.09
	κ Cancri	27	37.2	39.2	40.5	50.2	51.1	52.4	53.5	54.7	4.5	5.7	7.8	59 52.44	+ 0.07	32.46	9 0 24.97	15.23
	* — 31° 30′	28	. .	. .	. .	. .	. .	. .	15.5	18.2	19.7	21.3	22.6	2 19.46	— 39.29	32.46	9 2 12.63	12.14
	B. A. C. 3143	29	33.4	36.0	37.6	49.6	51.0	52.6	54.1	55.4	7.8	9.4	12.0	5 52.67	+ 0.20	32.46	9 6 25.33	11.49
	O. Arg. S. 9509	30	. .	. .	. .	43.4	44.6	46.0	47.4	48.5	59.6	0.9	3.3	8 51.71	— 5.55	32.46	9 9 18.62	12.37
	Lacaille 3780	31	20.7	23.2	24.9	37.0	38.3	39.8	41.1	42.5	55.0	56.3	58.9	12 39.79	+ 0.19	32.46	9 13 12.44	11.68
	* — 34° 44′	32	47.1	49.5	51.0	2.5	3.7	5.2	6.7	7.9	19.5	21.0	23.6	15 5.25	0.18	32.46	9 15 37.89	12.07
	Lacaille 3810	33	24.5	27.0	28.4	40.0	41.1	42.7	44.1	45.4	57.0	58.4	1.0	17 42.69	0.18	32.46	9 18 15.33	12.15
	B. A. C. 3235	34	11.1	13.5	15.0	26.7	27.8	29.2	30.7	31.9	43.7	45.1	47.6	21 29.31	+ 0.18	32.46	9 22 1.95	12.23
	Lacaille 3848	35	2.0	3.1	4.7	6.0	7.4	. .	41.5	44.3	45.7	47.2	48.8	22 25.07	— 20.16	32.46	9 22 37.37	12.25
	β Cephei, S. P.	†36	4.1	58.0	54.4	26.7	23.7	20.4	16.8	13.6	45.6	42.0	36.2	26 20.14	+ 0.01	32.46	9 26 52.61	2.47
	O. Arg. S. 9931	37	. .	37.7	39.0	50.1	51.2	52.7	54.0	55.3	6.6	7.8	. .	30 52.71	0.16	32.47	9 31 25.34	12.74
	Lacaille 3975	38	47.5	49.9	51.3	2.7	3.7	5.2	6.7	7.9	19.3	20.7	23.2	35 5.28	0.17	32.47	9 35 37.92	12.63
	Lacaille 3984	39	13.9	16.2	17.5	28.9	30.1	31.5	32.9	34.1	45.6	47.0	49.5	36 31.56	0.17	32.47	9 37 4.20	12.54
	Lacaille 4021	40	55.8	57.9	59.4	10.8	11.9	13.2	14.7	16.0	27.3	28.8	31.3	41 13.37	0.17	32.47	9 41 46.01	12.76
	Lacaille 4052	41	12.9	13.3	16.7	28.0	29.1	30.5	31.9	33.2	44.6	46.0	48.3	45 30.41	0.17	32.47	9 46 3.05	12.86
	π Leonis	42	16.3	18.1	19.4	29.0	30.0	31.3	32.5	33.5	43.4	44.7	46.4	52 31.33	+ 0.08	32.47	9 53 3.88	15.11
	Lacaille 4227	43	. .	. .	. .	15.6	16.8	18.3	19.7	21.0	32.5	33.9	36.4	10 24.28	— 5.75	32.48	10 10 51.01	13.30
	Lacaille 4250	44	19.0	21.4	22.8	34.2	35.3	36.6	38.1	39.3	50.7	52.2	54.5	13 36.74	+ 0.17	32.48	10 14 9.39	13.42
	Lacaille 4287	45	9.2	10.6	13.2	25.1	26.5	28.1	29.6	30.8	43.0	44.5	47.0	18 27.96	0.19	32.48	10 19 0.63	13.28
	Lacaille 4307	46	16.2	18.7	20.2	32.2	33.3	34.9	36.3	37.7	50.0	51.4	53.8	22 34.97	0.19	32.48	10 23 7.64	13.39
	* — 35° 25′	47	33.1	35.6	37.2	49.0	50.1	51.5	53.0	54.4	6.2	7.5	10.0	26 51.60	0.18	32.48	10 27 24.26	13.57
	Lacaille 4365	48	33.9	36.2	37.8	49.2	. .	51.7	. .	54.3	5.8	7.1	9.6	29 51.73	0.15	32.48	10 30 24.36	13.74
	Lacaille 4399	49	51.1	53.4	54.9	6.6	7.7	9.3	10.7	12.0	23.8	25.1	27.8	34 9.31	+ 0.18	32.48	10 34 41.97	13.75
	Lacaille 4407	50	. .	. .	. .	45.0	46.4	47.8	49.2	50.5	2.3	3.5	6.1	34 53.85	— 5.87	+32.48	10 35 20.46	— 13.76

2–3. Faint; through clouds.
4. Faint.
36. Rather hurried.

s.
April 7, 7h. to 12h. n. = — 0.10.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
April 7, 8.6	+ 32.45	+ 0.018	+ 0.090

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 7	Lacaille 4437	1	37.3	39.8	41.4	53.2	54.4	55.8	57.3	58.6	10.7	12.0	14.5	37 55.91	+ 0.19	+32.48	10 38 28.58	— 13.79
Y.	* — 36° 14′	2	48.4	50.9	52.4	4.1	5.3	6.7	8.1	9.5	21.6	23.1	25.4	39 6.86	+ 0.19	32.49	10 39 39.54	13.82
	l Leonis	3	34.1	35.1	36.4	37.6	38.6	. .	7.1	9.7	10.9	12.2	13.6	41 53.53	— 17.06	32.49	10 42 8.96	15.22
	Lacaille 4503	4	4.2	6.9	8.5	20.7	21.9	23.6	25.2	26.8	39.2	40.7	43.4	46 23.74	+ 0.20	32.49	10 46 56.43	13.90
	B. A. C. 3755	5	34.8	37.2	38.8	50.6	51.8	53.4	54.8	56.0	8.1	9.5	12.0	49 53.36	0.19	32.49	10 50 26.04	14.06
	Lacaille 4558	6	48.1	50.6	52.2	4.5	5.8	7.3	8.9	10.2	22.9	24.3	27.0	54 7.44	0.20	32.49	10 54 40.13	14.09
	Weisse 1049	7	14.8	16.8	18.1	28.0	28.9	30.2	31.3	32.4	42.3	43.5	45.7	58 30.18	+ 0.07	32.49	10 59 2.74	15.25
	Lacaille 4616	8	. .	. .	. .	. .	. .	. .	25.7	28.7	30.4	32.0	33.6	2 30.08	— 42.93	32.49	11 2 19.64	14.30
	Lacaille 4638	9	33.6	35.8	37.0	47.7	48.9	50.1	51.3	52.6	3.2	4.5	6.8	4 50.14	+ 0.15	32.49	11 5 22.78	15.55
	Lacaille 4667	10	52.5	55.0	56.8	8.6	10.0	11.8	13.2	14.5	27.0	28.5	31.0	8 11.72	0.20	32.50	11 8 44.42	14.46
	δ Crateris	11	47.3	49.3	50.7	0.4	1.4	2.7	3.8	4.9	14.9	16.1	18.2	12 2.70	0.12	32.50	11 12 35.32	14.75
	Iris	12	39.0	41.0	42.3	51.8	52.8	54.0	55.1	56.2	5.8	6.9	8.9	15 53.98	0.10	32.50	11 16 26.58	. .
	Lacaille 4746	13	18.6	21.0	22.6	34.4	35.9	37.4	38.9	40.1	52.4	53.7	56.3	19 37.39	0.19	32.50	11 20 10.08	14.75
	Lacaille 4760	14	16.6	19.2	20.7	32.6	33.9	35.4	36.9	38.2	50.4	51.8	54.4	22 35.47	0.19	32.50	11 23 8.16	14.82
	B. A. C. 3927	15	22.4	24.9	26.5	38.8	40.1	41.7	43.1	44.6	57.2	58.5	1.1	25 41.72	+ 0.20	32.50	11 26 14.42	14.90
	B. A. C. 3929	16	. .	. .	. .	27.6	28.9	30.4	31.8	33.3	46.0	47.6	50.2	26 36.98	— 6.25	32.50	11 27 3.23	14.92
	Lacaille 4814	17	2.5	4.9	6.5	18.8	20.0	21.4	22.9	24.3	36.7	38.0	40.6	30 21.51	+ 0.20	32.50	11 30 54.21	15.01
	Lacaille 4824	†18	9.5	12.3	13.7	25.9	27.0	28.8	30.3	31.5	44.0	45.3	47.9	31 28.75	+ 0.20	32.50	11 32 1.45	15.03
	Lacaille 4830	19	7.3	8.6	9.9	11.5	12.8	. .	48.8	51.8	53.5	55.0	56.9	32 31.61	— 21.31	32.50	11 32 42.80	15.05
	Lacaille 4882	20	45.0	47.5	48.9	0.6	1.7	3.3	4.6	5.7	17.4	18.9	21.3	39 3.17	+ 0.18	32.50	11 39 35.85	15.15
	β Leonis	†21	22.0	23.9	25.3	35.0	36.0	37.5	38.6	39.7	49.7	50.8	53.0	41 37.41	+ 0.07	32.51	11 42 9.99	14.97
	Venus II	22	5.7	7.7	9.1	18.6	19.6	20.8	22.0	23.1	32.8	33.9	36.0	34 20.85	. .	. .	. . . .	0.39
8	Sun I	23	41.3	43.3	44.6	54.1	55.1	56.4	57.6	58.7	8.3	9.6	11.6	8 56.42	. .	. .	. . . .	. .
N.	Sun II	24	50.5	52.5	53.8	3.2	4.3	5.5	6.8	7.8	17.4	18.7	20.7	11 5.56	. .	. .	. . . .	. .
10	Moon I	25	. .	. .	. .	. .	. .	. .	17.7	20.4	21.8	23.3	24.6	57 21.56	— 36.63	31.81	4 57 16.74	. .
	β Orionis	26	13.7	15.9	17.2	26.7	27.6	28.9	30.1	31.1	41.8	42.1	44.0	7 29.01	+ 0.09	31.81	. . . .	12.26
11	*δ* Crateris	27	. .	. .	. .	1.3	2.4	3.6	4.8	5.8	15.9	17.1	19.2	12 8.76	— 5.04	31.63	. . . .	14.72
R.	Weisse 211	28	37.2	39.2	40.4	50.1	51.2	52.4	53.8	54.8	4.6	5.9	8.0	12 52.51	+ 0.07	31.63	11 13 24.21	14.75
Y.	*α* Pegasi	29	12.9	15.1	16.4	26.2	27.2	28.5	29.6	30.7	40.7	41.8	43.9	57 28.45	0.12	31.30	. . . .	12.57
	Venus I	30	10.8	12.6	13.8	23.5	24.5	25.7	26.9	28.0	37.6	38.7	40.9	52 25.73	+ 0.09	31.30	23 52 57.12	. .
	Venus II	31	50.4	51.7	53.0	54.1	56.6	. .	56.8	59.3	0.4	1.7	3.1	52 26.71	— 0.15	31.30	23 52 57.86	. .
	α Andromedæ	32	33.7	36.1	37.7	48.4	49.5	50.7	52.2	53.4	4.3	5.6	8.0	0 50.88	+ 0.15	31.30	. . . .	12.87
	Polaris	33	. .	. .	. .	. .	. .	. .	. .	21.0	9.0	2.5	56.0	31 37.12	—23 16.32	31.29	. . . .	. .
12	Sun II	34	11.2	12.7	13.9	15.0	17.4	. .	18.3	20.8	22.0	23.3	24.6	25 47.79	0.00	31.29	1 26 19.08	64.81
	Sun II	35	32.6	34.4	35.8	45.4	46.4	47.7	48.8	49.8	59.7	0.9	2.8					
R.	*α* Pegasi	36	13.5	15.5	16.8	26.5	27.6	28.9	30.1	31.1	41.2	42.3	44.4	57 28.90	+ 0.15	30.91	. . . .	12.63
	Polaris	37	1.0	22.0	13.0	. .	. .	. .	. .	. .	. .	. .	. .	59 12.00	9 9.13	30.89	. . . .	. .
13	Moon I	38	45.0	47.3	48.6	58.7	59.9	1.2	2.4	3.5	13.9	15.2	17.3	38 1.18	0.16	30.85	7 38 32.19	.
	6 Cancri	39	23.5	25.8	27.3	38.0	39.2	40.5	41.9	43.0	54.1	55.3	57.6	54 40.56	0.23	30.85	7 55 11.64	16.72
	ζ Cancri (1st *)	40	39.7	41.9	43.1	53.0	54.1	55.3	56.5	57.6	7.8	9.0	11.0	3 55.36	+ 0.17	30.84	8 4 26.37	15.68
	ζ Cancri (2d *)	41	18.1	19.4	21.7	22.0	24.4	27.5	27.5	30.1	31.4	32.7	34.0	3 56.13	— 0.08	30.84	8 4 26.89	15.68
	ρ Leonis	†42	55.2	57.3	58.5	8.0	9.1	10.4	11.7	12.7	22.4	23.6	25.6	25 10.41	+ 0.13	30.83	10 25 41.37	15.13
17	Moon I	43	14.9	16.9	18.1	27.7	28.8	30.0	31.2	32.2	42.1	43.4	45.5	48 30.07	0.10	29.61	10 48 59.78	. .
	χ Leonis	44	17.7	19.7	20.9	30.6	31.6	32.8	34.0	35.0	44.7	46.0	47.9	57 32.81	+ 0.11	29.61	10 58 2.53	14.93
	ρ^3 Leonis	45	. .	. .	. .	. .	. .	. .	0.9	3.3	4.6	5.8	7.1	0 4.34	— 33.59	29.61	11 0 0.36	14.91
	δ Leonis	46	9.3	11.3	12.5	23.0	24.0	25.1	26.3	27.4	38.1	39.2	41.3	6 25.23	+ 0.13	29.61	11 6 54.97	15.40
	φ Leonis	47	2.9	4.9	6.3	15.6	16.7	17.8	19.0	20.0	29.8	30.9	32.9	9 17.89	0.10	29.61	11 9 47.60	14.84
Y.	*α* Pegasi	48	15.2	17.3	18.5	28.3	29.4	30.6	31.8	32.9	42.7	44.0	46.2	57 30.63	+ 0.12	+29.61	. . . .	— 12.73

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
h.	s.	s.	s.
April 10, 5.1	+ 31.81	— 0.006	+ 0.090
11, 23.5	31.30	0.003	. .
13, 5.8	30.86	0.007	+ 0.090
17, 11.0	+ 29.61	— 0.014	+ 0.100

18. Faint.
21. Unsteady.
42. Faint; through clouds.

	s.
April 10–11–12, . . . n. =	+ 0.09.
12–13, 22h. to 11h.	0.24.
17, . . .	+ 0.05.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 17	α Andromedæ . .	1	35.9	. .	39.7	50.5	51.5	52.9	54.3	55 4	6.5	. .	10.0	0 52.97	+ 0.14	+29.32	0 1 22.43	— 12.97
R.	Polaris	2	. .	. .	. .	46.0	27.0	14.0	3.5	47.0	. .	. .	. .	8 15.50	8.00	29.32	. . . .	50.52
18	Sun II	3	46.0	48.2	49.4	58.9	0.1	1.2	2.5	3.5	13.5	14.7	16.6	48 1.33	0.11	29.32	1 48 30.76	— 65.13
	Mercury I . . .	4	36.6	38.6	40.0	49.8	51.0	52.2	53.4	54.6	4.6	6.0	8.2	45 52.27	0.12	29.32	2 46 21.71	+ 0.21
	α Tauri	†5	1.0	2.6	3.9	5.1	7.4	23.0	24.8	26.4	. .	. .	. .	27 11.78	+ 26.87	29.32	4 28 7.97	— 14.57
	Iris	†6	. .	. .	. .	. .	. .	. .	. .	. .	41.2	42.7	44.5	10 42.80	— 13.22	29.32	11 10 58.90	14.84
	τ Leonis	7	14.6	16.8	18.0	27.6	28.6	29.7	30.9	32.0	41.6	42.9	44.8	20 29.77	+ 0.10	29.32	11 20 59.19	14.98
	Weisse 349 . . .	8	54.8	56.0	57.4	58.5	0.7	. .	1.2	3.4	4.6	5.8	7.1	20 30.94	— 0.14	29.32	11 21 0.12	14.97
	Moon I	9	57.3	59.2	0.4	10.3	11.3	12.5	13.7	14.8	24.6	25.9	27.9	35 12.54	+ 0.10	29.32	11 35 41.96	. .
	Lacaille 4890 . .	10	44.7	46.9	48.3	59.2	0.2	1.5	2.9	4.3	15.3	16.8	18.9	40 1.73	0.12	29.32	11 40 31.17	15.07
	β Virginus . . .	11	55.0	56.9	58.3	7.6	8.7	9.9	11.1	12.1	21.8	23.0	25.0	43 9.95	0.10	29.32	11 43 39.37	15.00
	* — 26° 55′ . .	†12	33.7	35.8	37.4	48.3	49.5	50.7	52.0	53.1	4.1	5.5	7.7	50 50.71	0.11	29.32	11 51 20.14	15.23
	Weisse 980 . . .	13	54.8	56.0	57.4	58.5	0.9	. .	. .	. .	. .	. .	. .	56 57.52	33.74	29.32	11 58 0.58	15.01
	o Virginis	14	35.0	36.9	38.2	47.9	48.8	50.1	51.4	52.4	2.0	3.4	5.3	57 50.13	+ 0.10	29.32	11 58 19.55	14.95
	10 Virginis	†15	. .	. .	. .	. .	. .	. .	46.9	49.0	50.4	51.6	53.0	2 50.18	— 33.59	29.32	12 2 45.91	15.04
	13 Virginis	16	0.5	2.4	3.6	13.1	14.3	15.5	16.6	17.6	27.3	28.5	30.4	11 15.44	+ 0.10	29.32	12 11 44.86	15.08
	η Virginis	17	15.4	17.5	18.6	28.2	29.3	30.4	31.5	32.5	42.3	43.3	45.5	12 30.41	0.10	29.32	12 12 59.83	15.07
Y.	α Pegasi	18	15.2	17.3	18.5	28.3	29.4	30.7	31.9	33.0	42.9	44.2	46.2	57 30.69	0.10	29.30	22 58 0.09	12.76
	α Andromedæ . .	19	. .	38.2	39.8	50.6	51.7	53.0	54.3	55.5	6.4	7.8	. .	0 53.03	+ 0.12	29.29	0 1 22.44	12.99
	Venus II . . .	20	22.8	24.1	25.4	26.5	28.8	. .	29.1	31.6	32.8	34.0	35.4	23 59.05	— 0.14	29.29	0 24 28.20	— 0.37
	Polaris	21	. .	. .	. .	50.0	28.0	18.0	7.0	47.5	. .	. .	. .	8 18.10	+ 5.98	29.28	. . . .	. .
19	Sun I	22	19.0	20.8	22.1	31.8	32.8	34.0	35.2	36.4	46.3	47.5	49.6	49 34.14	0.10	29.27	1 50 3.51	. .
	Sun II	23	29.2	31.3	32.7	42.3	43.3	44.5	45.7	46.9	56.6	57.9	0.0	51 44.58	+ 0.10	29.27	1 52 13.95	. .
	Mercury I . . .	24	10.9	12.3	13.6	14.9	17.3	. .	21.0	23.4	24.6	25.9	27.5	52 49.14	— 0.15	29.27	2 53 18.26	+ 0.22
	* — 30° 29′ . .	25	8.6	10.9	12.2	23.2	24.4	25.8	27.2	28.4	39.7	41.1	43.2	56 25.88	+ 0.14	29.22	8 56 55.22	— 11.86
	κ Cancri	26	40.1	42.2	43.5	53.0	54.0	55.3	56.6	57.6	7.4	8.7	10.8	59 55.38	0.09	29.22	9 0 24.69	15.04
	O. Arg. S. 9418 .	27	2.7	4.9	6.3	17.3	18.4	19.7	21.1	22.3	33.3	34.7	37.0	3 19.79	0.14	29.22	9 3 49.15	12.10
	O. Arg. S. 9481 .	28	47.8	50.2	51.4	2.4	3.5	4.8	6.2	7.4	18.5	19.8	22.1	7 4.92	0.14	29.22	9 7 34.28	12.18
	O. Arg. S. 9522 .	29	18.0	20.1	21.6	32.2	33.3	34.6	35.9	37.1	48.0	49.3	51.6	9 34.70	0.13	29.22	9 10 4.05	12.42
	* — 35° 6′ . .	30	28.5	30.8	32.4	43.9	45.1	46.6	48.1	49 4	1.3	2.7	5.2	11 46.73	+ 0.15	29.22	9 12 16.10	11.73
	O. Arg. S. 9600 .	31	. .	. .	. .	34.1	35.2	36.5	37.8	38.9	49.9	51.3	53.6	13 42.16	— 5.43	29.22	9 14 5.95	12.46
	* — 34° 56′ .	32	29.4	31.9	33.4	45.0	46.2	47.7	49.2	50.4	2.3	3.7	6.0	16 47.75	+ 0.15	29.21	9 17 17.11	11.86
	α Hydræ	33	11.9	13.9	15.0	24.6	25.6	26.9	28.0	29.1	38.9	40.2	42.1	20 26.93	0.11	29.21	9 20 56.25	13.85
	ε Antliæ	34	52.5	54.8	56.4	. .	. .	. .	. .	. .	25.3	26.7	29.2	23 10.82	0.10	29.21	9 23 40.13	11.96
	Lacaille 3889 . .	35	7.0	9.4	10.9	22.5	23.7	25.1	26.6	27.9	39.8	41.1	43.7	25 25.25	+ 0.15	29.21	9 25 54.61	12.02
	Lacaille 3905 . .	36	18.0	19.4	20.9	22.5	23.7	. .	59.4	2.5	3.8	5.5	7.2	27 42.29	— 21.17	29.21	9 27 50.33	11.81
	Lacaille 3945 . .	37	7.3	9.6	11.0	21.9	23.0	24.4	25.8	27.0	38.3	39.6	41.8	31 24.52	+ 0.14	29.21	9 31 53.87	12.54
	* — 35° 24′ . .	38	43.6	46.1	47.6	59.2	0.6	2.0	3.4	4.6	16.5	17.9	20.5	35 2.00	0.15	29.21	9 35 31.36	12.21
	* — 29° 11′ . .	39	37.9	40.0	41.4	52.4	53.5	55.0	56.2	57.4	8.5	9.9	12.3	36 54.95	0.14	29.21	9 37 24.30	12.71
	* — 37° 33′ . .	40	9.7	12.3	13.8	25.7	27.0	28.5	30.0	31.4	43.5	44.8	47.6	41 28.57	0.16	29.21	9 41 57.94	12.19
	114 (W.) . . .	41	31.6	33.6	34.8	44.9	45.9	47.0	48.3	49.4	59.3	0.4	2.5	45 47.06	0.09	29.21	9 46 16.36	15.32
	* — 40° 6′ . .	42	43.3	45.9	47.6	0.0	1.3	2.7	4.3	5.7	18.4	19.9	22.5	49 2.87	0.16	29.21	9 49 32.24	12.18
	* — 40° 9′ . .	43	42.6	45.0	46.7	59.2	0.4	2.0	3.6	5.0	17.7	19.3	21.9	50 2.13	0.16	29.21	9 50 31.50	12.20
	* — 35° 35′ . .	44	31.6	34.2	35.7	47.5	48.6	50.0	51.5	52.8	4.6	6.1	8.6	53 50.11	0.15	29.21	9 54 19.47	12.63
	O. Arg. S. 10387 .	45	51.3	53.5	54.8	5.1	6.2	7.5	8.8	9.9	20.5	21.7	24.0	1 7.57	0.13	29.21	10 1 36.91	13.47
	Lacaille 4186 . .	46	19.6	22.3	23.9	36.5	37.6	39.3	40.8	42.0	54.8	56.3	59.0	5 39.28	0.16	29.21	10 6 8.65	12.62
	* — 38° 39′ . .	47	36.3	38.8	40.4	52.7	53.8	55.5	56.9	58.4	10.7	12.3	14.8	7 55.51	0.16	29.21	10 8 24.88	12.78
	γ Leonis, (1st *) . .	48	45.4	47.5	48.9	58.8	0.0	1.3	2.6	3.7	14.0	15.2	17.5	12 1.35	+ 0.09	29.21	10 12 30.65	15.65
	γ Leonis, (2d *) . .	49	23.2	24.7	25.9	27.1	29.7	. .	34.0	36.4	37.7	39.0	40.5	12 1.82	— 0.16	+29.21	10 12 30.87	— 15.57

5. Faint; through clouds.
6. Very faint.
12. Faint.
15. Through clouds.

s.

April 17–18, 22h. to 5h. n. = + 0.05.
18, 11h. to 13h. 0.00.
18–19, 22h. to 3h. 0.00.
19, 8h. to 11h. — 0.04.
11h. to 14h. — 0.08.

April 18. Cloudy; stars steady when visible.

r.

April 17, 13h. 25m. Image east 0.12. Clamp east.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
April 18, 8.0	+ 29.32	0.000	+ 0.100
19, 8.6	+ 29.22	— 0.008	+ 0.100

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 19 Y.	* — 35° 32′	1	13.5	15.9	17.4	29.0	30.2	31.7	33.0	34.4	46.4	47.9	50.2	15 31.78	+ 0.15	+29.21	10 16 1.14	— 13.13
	Weisse 377	2	26.2	28.2	29.5	39.3	40.3	41.5	42.7	43.7	53.6	54.8	56.8	21 41.51	0.09	29.21	10 22 10.81	15.11
	Weisse 412	3	28.8	30.8	32.1	41.8	42.8	43.9	45.1	46.3	56.2	57.2	59.4	23 44.04	0.09	29.21	10 24 13.34	15.09
	Weisse 439	4	56.7	58.7	0.0	9.5	10.7	11.9	13.0	14.2	24.0	25.2	27.2	25 11.92	0.09	29.21	10 25 41.22	15.10
	* — 35° 40′	5	- -	- -	-	54.3	55.5	56.9	58.4	59.7	- -	- -	- -	28 56.96	0.21	29.21	10 29 26.38	13.44
	* — 35° 39′	6	18.6	21.0	22.5	34.2	35.4	37.0	38.4	39.7	51.6	52.9	55.5	29 36.98	0.15	29.21	10 30 6.34	13.46
	Lacaille 4384	7	59.2	1.8	3.4	15.8	17.0	18.7	20.4	21.6	34.4	35.7	38.3	32 18.75	0.16	29.20	10 32 48.11	13.55
	O. Arg. S. 10849	8	14.0	16.2	17.5	27.9	28.9	30.2	31.6	32.7	43.2	44.6	46.7	37 30.32	0.13	29.20	10 37 59.65	14.04
	O. Arg. S. 10872	9	- -	- -	- -	33.3	34.4	35.8	37.0	38.3	- -	- -	- -	39 35.76	0.18	29.20	10 40 5.14	13.95
	O. Arg. S. 10874	10	19.3	21.7	23.0	- -	- -	- -	- -	- -	49.6	51.0	53.3	39 36.32	0.08	29.20	10 40 5.60	13.95
	O. Arg. S. 10906	11	2.6	4.8	6.2	16.8	17.8	19.1	20.5	21.7	32.5	33.8	36.0	42 19.25	0.13	29.20	10 42 48.58	14.04
	O. Arg. S. 10933	12	43.9	46.0	47.5	57.8	58.8	0.2	1.4	2.5	13.1	14.5	16.8	45 0.23	0.13	29.20	10 45 29.56	14.15
	* — 27° 45′	13	50.3	52.5	53.9	4.6	5.7	7.2	8.5	9.7	20.4	21.8	24.0	50 7.15	0.14	29.20	10 50 36.49	14.14
	O. Arg. S. 11015	14	45.2	47.6	48.9	59.8	0.8	2.1	3.5	4.7	15.6	17.0	19.0	51 2.20	0.13	29.20	10 51 31.53	14.16
	O. Arg. S. 11069	15	6.3	8.4	9.8	20.4	21.5	22.8	24.0	25.3	36.0	37.4	39.7	55 22.87	0.13	29.20	10 55 52.20	14.26
	O. Arg. S. 11154	16	9.8	12.0	13.4	24.2	25.4	26.6	28.1	29.2	40.1	41.5	43.7	0 26.73	0.14	29.20	11 0 56.07	14.33
	O. Arg. S. 11188	17	6.9	9.0	10.3	20.9	22.0	23.4	24.7	25.8	36.6	37.9	40.0	2 23.41	0.15	29.20	11 2 52.76	14.40
	O. Arg. S. 11208	18	10.2	12.5	13.9	24.4	25.5	26.7	28.0	29.2	39.8	41.1	43.4	3 26.79	+ 0.15	29.20	11 3 56.14	14.42
	* — 25° 23′	19	- -	- -	- -	- -	- -	- -	45.8	48.5	50.0	51.3	52.7	4 49.66	— 37.10	29.20	11 4 41.76	14.43
	O. Arg. S. 11250	20	14.5	16.8	18.0	28.5	29.7	30.9	32.3	33.5	44.2	45.5	47.8	7 31.06	+ 0.15	29.20	11 8 0.41	14.49
	Iris	21	53.4	55.3	56.6	6.0	6.9	8.2	9.4	10.4	20.1	21.3	23.3	10 8.26	0.10	29.20	11 10 37.56	- -
	Lacaille 4713	22	50.4	52.9	54.3	5.8	7.0	8.6	10.0	11.3	23.0	24.5	26.9	14 8.61	+ 0.18	29.20	11 14 37.99	14.52
	Lacaille 4725	23	55.4	56.6	58.0	59.4	0.4	- -	32.3	35.0	36.4	37.8	39.2	16 17.05	— 18.90	29.20	11 16 27.35	14.61
	τ Leonis	24	14.9	16.9	18.0	27.7	28.7	29.8	31.0	32.1	41.7	42.9	45.0	20 29.88	+ 0.11	29.20	11 20 59.19	14.97
	Weisse 349	25	54.8	56.1	57.3	58.5	0.9	- -	1.1	3.5	4.7	6.0	7.3	20 31.02	— 0.13	29.20	11 21 0.09	14.96
	O. Arg. S. 11446	26	36.0	38.3	39.7	50.5	51.5	52.9	54.3	55.5	6.4	7.8	10.0	23 52.99	+ 0.16	29.20	11 24 22.35	14.76
	* — 40° 23′	27	51.9	54.5	56.1	8.5	9.9	11.4	12.9	14.4	27.0	28.7	31.3	27 11.51	0.20	29.20	11 27 40.91	14.84
	* — 34° 22′	28	49.0	51.5	53.0	4.6	5.6	7.1	8.7	9.8	21.6	23.0	25.5	30 7.22	0.18	29.20	11 30 36.60	14.88
	O. Arg. S. 11557	29	30.8	33.2	34.5	45.6	46.7	47.9	49.3	50.5	1.7	2.9	5.5	32 48.05	0.16	29.20	11 33 17.41	14.92
	* — 36° 51′	30	57.5	0.0	1.4	13.3	14.5	16.0	17.5	18.9	30.9	32.4	34.8	38 16.11	0.19	29.20	11 38 45.50	15.09
	β Virginis	31	55.0	57.0	58.3	8.0	8.9	10.2	11.3	12.4	21.8	23.0	25.0	43 10.08	0.10	29.20	11 43 39.38	15.00
	B. A. C. 4025	32	11.4	13.5	14.7	24.1	25.1	26.3	27.5	28.5	38.3	39.4	41.4	47 26.38	0.10	29.20	11 47 55.68	15.01
	O. Arg. S. 11831	33	20.8	23.0	24.4	35.1	36.2	37.5	38.8	39.9	50.6	51.9	54.1	53 37.48	0.15	29.19	11 54 6.82	15.25
	O. Arg. S. 11876	34	51.6	54.0	55.5	6.5	7.6	9.0	10.4	11.6	22.8	24.2	26.5	57 9.06	0.16	29.19	11 57 38.51	15.40
	O. Arg. S. 11908	35	20.6	22.8	24.0	34.4	35.5	36.8	38.1	39.2	49.8	51.0	53.2	59 36.85	0.14	29.19	12 0 6.18	15.30
	10 Virginis	36	1.7	3.6	5.0	14.4	15.5	16.6	17.8	18.8	28.4	29.6	31.7	2 16.65	0.10	29.19	12 2 45.94	15.04
	* — 28° 43′	37	59.0	1.1	2.5	13.4	14.5	15.9	17.2	18.5	29.2	30.5	32.6	9 15.85	0.16	29.19	12 9 45.20	15.58
	η Virginis	38	15.4	17.5	18.6	28.2	29.2	30.4	31.6	32.6	- -	- -	- -	12 25.44	+ 5.09	29.19	12 12 59.72	15.07
	Moon	39	- -	- -	- -	57.8	58.7	0.0	1.2	2.3	12.0	13.2	15.4	23 5.08	— 4.99	29.19	12 23 29.28	- -
	χ Virginis	40	32.3	34.1	35.5	45.1	46.1	47.2	48.5	49.5	59.2	0.5	1.6	31 47.24	+ 0.11	29.19	12 32 16.54	15.30
	* — 37° 5′	41	31.2	33.6	35.1	47.0	48.3	49.7	51.3	52.7	4.8	6.1	8.7	37 49.86	0.19	29.19	12 38 19.24	16.49
	Lacaille 5295	42	21.9	24.3	25.7	36.7	37.7	39.0	40.4	41.6	53.0	54.2	56.5	42 39.18	0.16	29.19	12 43 8.53	16.20
	ψ Virginis	43	35.5	37.6	38.8	48.3	49.4	50.6	51.8	52.8	2.6	3.8	5.9	46 50.65	0.11	29.19	12 47 19.95	15.43
	* — 32° 24′	44	19.8	22.2	23.7	35.0	36.2	37.6	38.8	40.2	51.7	52.9	55.3	49 37.58	0.17	29.19	12 50 6.94	16.46
	O. Arg. S. 12573	45	13.4	15.7	17.0	27.5	28.5	29.8	31.1	32.3	42.7	43.9	46.0	52 29.81	0.14	29.19	12 52 59.14	16.03
	O. Arg. S. 12615	46	49.4	51.7	52.8	3.4	4.6	5.8	7.1	8.4	19.0	20.3	22.6	56 5.92	0.15	29.19	12 57 35.26	16.18
	O. Arg. S. 12655	47	28.5	30.8	32.3	43.2	44.4	45.7	46.9	48.4	59.4	0.8	3.1	59 45.77	0.16	29.18	13 0 15.11	16.48
	θ Virginis	48	13.4	15.4	16.5	26.0	27.0	28.4	29.4	30.5	40.1	41.2	43.4	2 28.30	+ 0.11	29.18	13 2 57.59	15.36
	Polaris, S. P.	49	- -	- -	- -	55.0	16.0	27.0	38.5	57.0	- -	- -	- -	8 26.70	— 2.74	29.18	- - - -	50.88
	α Virginis	50	20.6	22.6	23.9	33.4	34.5	35.7	36.8	37.9	47.6	48.9	51.0	17 35.72	+ 0.12	+29.18	13 18 5.02	— 15.67

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 19, 8.6	+ 29.22	— 0.008	+ 0.100

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 21 Y.	κ Cancri	1	40.6	42.5	43.9	53.4	54.6	55.8	57.0	58.0	7.8	9.0	11.0	59 55.78	+ 0.09	+28.84	9 0 24.71	— 15.01
	Lacaille 3700	2	. .	. .	. .	33.7	35.3	37.5	54.9	57.6	59.0	0.5	2.0	3 50.06	— 29.65	28.84	9 3 49.25	12.06
	O. Arg. S. 9488	3	5.7	7.9	9.4	20.2	21.2	22.6	23.9	25.1	36.0	37.3	39.6	7 22.63	+ 0.16	28.84	9 7 51.63	12.26
	O. Arg. S. 9522	4	18.4	20.6	21.8	32.6	33.6	35.0	36.3	37.5	48.3	49.8	52.0	9 35.08	0.15	28.84	9 10 4.07	12.39
	* — 35° 7′	5	28.8	31.2	32.7	44.4	45.6	47.0	48.6	49.8	1.5	3.0	5.5	11 47.10	0.18	28.84	9 12 16.12	11.69
	* — 28° 39′	6	49.4	51.6	53.0	3.8	4.9	6.4	7.7	8.9	19.8	21.2	23.6	14 6.39	0.16	28.84	9 14 35.39	12.30
	* — 34° 56′	7	29.8	32.2	33.8	45.3	46.4	48.0	49.5	50.7	2.6	4.0	6.5	16 48.07	0.18	28.84	9 17 17.09	11.82
	* — 27° 47′	8	58.9	1.1	2.5	13.2	14.2	15.6	16.9	18.1	29.0	30.4	32.6	20 15.68	+ 0.16	28.84	9 20 44.68	12.48
	β Cephei, S. P.	9	8.3	2.9	58.9	31.4	28.0	25.3	21.3	18.0	50.4	46.7	40.6	26 24.71	— 0.07	28.84	9 26 53.48	. .
	* + 25° 4′	10	. .	. .	. .	. .	. .	. .	59.8	2.7	4.0	5.5	7.0	32 3.80	— 37.00	28.84	9 31 55.64	16.00
	* — 37° 53′	11	15.6	18.2	19.8	31.7	33.0	34.5	36.0	37.3	49.8	51.1	53.7	35 35.61	+ 0.19	28.84	9 36 4.64	11.98
	Lacaille 3996	12	56.6	59.2	0.6	13.1	14.4	15.7	17.2	18.5	30.9	32.5	35.1	38 15.80	0.19	28.84	9 38 44.83	11.96
	* — 29° 39′	13	27.5	29.6	31.0	42.0	43.0	44.5	45.9	47.0	58.2	59.5	1.8	40 44.55	0.16	28.84	9 41 13.55	12.71
	O. Arg. S. 10131	14	49.1	51.6	52.9	3.8	4.9	6.4	7.7	8.9	20.0	21.6	23.8	42 6.43	0.16	28.84	9 42 35.43	12.74
	* — 37° 33′	15	10.8	13.3	15.0	26.9	28.2	29.8	31 2	32.5	44.7	46.2	48.8	45 29.76	0.19	28.84	9 45 58.79	12.25
	* — 37° 46′	16	55.7	58.3	59.8	11.7	13.0	14.6	16.1	17.5	29.7	31.0	33.5	47 14.63	0.19	28.84	9 47 43.66	12.28
	π Leonis	17	19.6	21.6	23.0	32.4	33.4	34.6	35.9	37.0	46.8	47.9	49.9	52 34.74	0.09	28.84	9 53 3.67	14.93
	* — 29° 36′	18	12.7	15.0	16.3	27.4	28.4	29.8	31.1	32.4	43.5	44.9	47.2	56 29.88	+ 0.16	28.84	9 56 58.88	13.02
	* — 29° 35′	19	55.3	. .	57.7	59.0	0.2	. .	33.6	35.3	36.7	38.1	39.8	57 19.52	— 21.47	28.84	9 57 26.89	13.03
	* + 12° 56′	20	23.8	25.6	26.8	36.5	37.6	38.9	40.0	41.0	50.9	52.1	54.2	1 38.85	+ 0.09	28.84	10 2 7.78	15.17
	* + 12° 57′	21	11.4	13.5	14.7	24.6	25.6	26.7	28.0	29.1	39.0	40.3	42.3	2 26.84	0.09	28.84	10 2 55.77	15.17
	Weisse 75	22	25.6	27.5	28.8	38.6	39.7	40.8	42.0	43.0	53.0	54.1	56.3	5 40.85	0.09	28.84	10 6 9.78	15.17
	Weisse 115	23	12.2	14.3	15.5	25.2	26.2	27.4	28.6	29.7	39.6	40.8	43.0	7 27.50	0.09	28.84	10 7 56.43	15.15
	Weisse 209	24	30.2	32.3	33.6	43.4	44.4	45.6	46.7	47.9	57.7	58.8	1.0	12 45.60	0.09	28.84	10 13 14.53	15.12
	Weisse 240	25	3.3	5.4	6.6	26.4	27.3	28.6	29.8	30.8	40.8	41.9	44.0	14 28.63	0.09	28.84	10 14 57.56	15.12
	Weisse 276	26	25.2	27.3	28.5	38.2	39.2	40.4	41.5	42.7	52.6	53.8	55.8	16 40.47	0.09	28.84	10 17 9.40	15.09
	O. Arg. S. 10634	27	12.2	14.2	15.7	26.9	28.0	29.3	30.6	31.9	43.0	44.5	46.7	20 29.36	0.16	28.84	10 20 58.36	13.45
	O. Arg. S. 10684	28	40.1	42.3	43.7	54.1	55.2	56.6	57.8	59.0	9.7	10.9	13.0	23 56.58	0.15	28.84	10 24 25.57	13.76
	* — 35° 31′	29	36.6	39.2	40.6	52.3	53.4	54.8	56.4	57.8	9.4	10.9	13.5	26 54.99	0.18	28.84	10 27 24.01	13.37
	* — 35° 39′	30	18.8	21.3	22.9	34.6	35.7	37.3	38.7	40.0	52.0	53.4	55.9	29 37.33	0.18	28.84	10 30 6.35	13.42
	Lacaille 4387	31	21.6	24.0	25.6	37.5	38.7	40.1	41.6	43.0	54.8	56.2	58.6	32 40.15	0.18	28.84	10 33 9.17	13.49
	O. Arg. S. 10849	32	14.3	16.6	17.9	28.4	29.4	30.7	32.0	33.2	43.6	44.9	47.1	37 30.74	+ 0.14	28.84	10 37 59.72	14.02
	Lacaille 4450	33	. .	. .	. .	15.2	16.4	18.0	19.6	20.9	33.8	35.0	37.9	39 24.60	— 6.29	28.84	10 39 47.15	13.49
	* — 37° 35′	34	11.8	14.3	15.4	27.7	28.9	30.5	32.0	33.3	45.5	47.0	49.4	42 30.53	+ 0.19	28.84	10 42 59.56	13.67
	* — 23° 36′	35	30.0	32.2	33.5	44.0	45.2	46.4	47.7	48.9	59.4	0.6	2.8	46 46.43	0.14	28.84	10 47 15.41	14.16
	O. Arg. S. 11003	36	42.0	44.3	45.5	56.8	58.0	59.5	0.8	1.9	13.0	14.5	16.8	49 59.37	0.16	28.84	10 50 28.37	14.04
	* — 35° 46′	37	4.0	6.3	8.0	19.7	20.9	22.4	23.9	25.2	37.0	38.6	41.2	52 22.47	0.18	28.84	10 52 51.49	13.97
	O. Arg. S. 11069	38	6.5	8.7	10.1	20.6	21.8	23.0	24.4	25.5	36.4	37.7	40.0	55 23.15	0.15	28.84	10 55 52.14	14.24
	χ Leonis	39	18.5	20.5	21.7	31.3	32.4	33.4	34.6	35.7	45.5	46.6	48.7	57 33.54	0.09	28.84	10 58 2.47	14.89
	Lacaille 4607	40	42.7	45.1	46.6	58.7	0.0	1.7	3.2	4.5	16.7	18.1	20.7	1 1.63	0.19	28.84	11 1 30.66	14.14
	Lacaille 4642	41	58.0	0.3	1.7	12.9	14.1	15.6	16.8	18.0	29.6	30.8	33.1	5 15.54	0.17	28.84	11 5 44.55	14.34
	Iris	42	15.8	17.8	19.0	28.5	29.5	30.7	31.9	32.9	42.6	43.8	45.8	9 30.75	0.10	28.84	11 9 59.69	.
	O. Arg. S. 11320	43	2.7	5.0	6.2	16.8	17.9	19.1	20.4	21.6	32.3	33.8	35.9	13 19.25	0.15	28.84	11 13 48.24	14.56
	Lacaille 4725	44	41.2	43.6	45.0	55.8	56.8	58.2	59.6	0.7	11.7	13.0	15.4	15 58.28	0.16	28.84	11 16 27.28	14.57
	O. Arg. S. 11374	45	22.6	24.8	26.0	36.7	37.8	39.0	40.5	41.6	52.3	53.6	55.9	18 39.16	0.15	28.84	11 19 8.15	14.66
	Lacaille 4758	46	10.7	13.1	14.4	25.0	26.1	27.4	28.6	30.0	40.8	42.1	44.6	22 27.53	0.15	28.84	11 22 56.52	14.71
	Lacaille 4777	47	28.5	31.0	32.5	44.2	45.3	46.8	48.4	49.5	1.4	2.7	5.3	25 46.87	0.18	28.84	11 25 15.89	14.77
	O. Arg. S. 11491	48	34.1	36.4	37.7	48.7	49.8	51.2	52.6	53.8	4.9	6.2	8.5	27 51.26	+ 0.16	28.84	11 28 20.26	14.81
	O. Arg. S. 11531	49	23.4	24.8	26.1	27.5	29.9	. .	36.3	38.8	40.1	41.6	43.2	31 3.17	— 0.11	28.84	11 31 31.90	14.86
	* — 24° 50′	50	47.9	50.1	51.5	2.0	3.0	4.3	5.6	6.8	17.4	18.6	20.8	31 43.60	+ 0.15	+28.84	11 31 33.35	— 14.86

April 21, 9h. to 15h. n. $= -0.^{s}08$.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
April 21, 12.1	+ 28.84	0.000	+ 0.100

DATE.	OBJECT	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 21	Lacaille 4857	1	. .	. .	. .	44.8	46.2	48.5	6.4	9.1	10.5	12.0	13.7	35 1.40	— 30.42	+28.84	11 34 59.82	— 14.95
Y.	* — 36° 51′	2	57.8	0.3	1.8	13.7	15.0	16.4	17.8	19.4	31.3	32.9	35.3	38 16.52	+ 0.19	28.84	11 38 45.55	15.08
	β Leonis	3	38.6	39.7	40.9	42.2	43.3	. .	12.3	14.8	16.0	17.4	18.6	41 58.38	— 17.34	28.84	11 42 9.88	14.89
	* — 36° 59′	4	. .	42.7	44.1	56.1	57.3	58.8	0.3	1.6	13.7	15.2	. .	44 58.87	+ 0.20	28.84	11 45 27.91	15.24
	* — 35° 13′	5	. .	. .	. .	6.0	7.5	9.0	28.4	31.5	33.0	34.6	36.2	47 23.28	— 31.67	28.84	11 47 20.45	15.26
	O. Arg. S. 11831	6	21.2	23.3	24.8	35.3	36.4	37.8	39.1	40.2	50.9	52.2	54.5	53 37.79	+ 0.15	28.84	11 54 6.78	15.24
	Lalande 23198	7	15.9	18.1	19.6	30.0	31.2	32.5	33.7	35.0	45.5	46.8	49.0	16 32.48	+ 0.15	28.84	12 17 1.47	15.60
	Lacaille 5143	8	. .	. .	. .	41.4	42.4	43.8	45.0	46.3	56.9	58.3	0.6	17 49.34	— 5.33	28.84	12 18 12.85	15.62
	* — 35° 10′	9	42.4	44.8	46.3	58.0	59.2	0.6	2.0	3.4	15.1	16.6	19.1	21 0.68	+ 0.18	28.84	12 21 29.70	16.02
	* — 35° 4′	10	56.6	58.9	0.5	12.0	13.3	14.7	16.3	17.5	29.4	30.7	33.2	22 14.83	+ 0.18	28.84	12 22 43.85	16.04
	* — 32° 54′	11	. .	. .	. .	. .	. .	. .	33.1	36.0	37.5	38.9	40.5	24 37.20	— 39.91	28.84	12 24 26.13	16.00
	* — 32° 30′	12	46.5	48.9	50.4	1.7	2.8	4.3	5.6	7.0	18.2	19.7	22.1	26 4.29	+ 0.17	28.84	12 26 33.30	16.02
	Lacaille 5220	13	55.7	58.1	59.6	10.7	11.9	13.3	14.7	15.9	27.2	28.6	30.9	29 13.33	0.17	28.84	12 29 42.34	16.03
	O. Arg. S. 12377	14	3.3	5.5	6.9	17.7	18.7	20.1	21.5	22.7	33.6	34.9	37.1	36 20.18	0.16	28.84	12 36 49.18	15.99
	Lacaille 5284	15	15.2	17.5	18.9	30.1	31.4	32.7	34.1	35.3	46.6	48.0	50.2	40 32.73	+ 0.17	28.84	12 41 1.74	16.26
	B. A. C. 4345	16	25.9	27.7	29.4	30.9	33.8	. .	51.2	54.2	55.9	57.5	59.2	49 12.57	— 0.12	28.84	12 49 41.29	14.15
	α Canum Venaticorum	17	54.3	56.8	58.5	10.7	12.0	13.6	15.1	16.4	28.8	30.4	33.0	49 13.62	+ 0.06	28.84	12 49 42.52	14.06
	Saturn I	18	27.2	28.4	29.8	31.0	33.3	. .	33.4	35.8	37.0	38.3	39.6	53 3.38	— 0.14	28.84	12 53 32.08	. .
	Saturn II	19	49.4	51.4	52.7	2.2	3.2	4.4	5.5	6.5	16.2	17.4	19.5	53 4.40	+ 0.10	28.84	12 53 33.34	. .
	* — 34° 22′	20	31.8	34.4	35.8	47.4	48.6	50.0	51.5	52.7	4.4	5.8	8.4	57 50.07	+ 0.18	28.84	12 58 19.09	16.74
	Polaris, S. P.	21	31.0	14.0	22.5	59.0	16.0	. .	. .	. .	. .	. .	. .	14 16.50	— 5 50.45	28.84	13 8 54.89	. .
	h Virginis	22	7.4	9.4	10.7	20.3	21.3	22.5	23.7	24.7	34.4	35.6	37.8	25 22.53	+ 0.12	28.84	13 25 51.49	15.68
	* — 26° 33′	23	27.2	29.4	30.9	41.5	42.6	43.8	45.3	46.4	57.2	58.5	0.8	30 43.96	0.15	28.84	13 31 12.95	16.74
	* — 37° 41′	24	19.3	21.7	23.3	35.4	36.5	37.9	39.5	40.9	52.5	54.0	56.9	34 37.99	0.19	28.84	13 35 7.02	17.74
	Lacaille 5663	25	29.7	31.9	33.2	43.7	44.8	46.0	47.4	48.6	59.2	0.6	2.8	36 46.17	+ 0.15	28.84	13 37 15.16	16.69
	O. Arg. S. 13167	26	7.3	8.8	10.0	11.4	14.1	. .	21.9	24.6	26.0	27.5	28.9	41 48.05	— 0.11	28.84	13 42 16.78	16.96
	O. Arg. S. 13169	27	37.5	39.5	41.0	51.7	52.7	54.0	55.5	56.5	7.6	8.8	11.2	41 54.18	+ 0.16	28.84	13 42 23.18	16.96
	O. Arg. S. 13243	28	23.8	26.3	27.5	38.5	39.6	41.0	42.4	43.6	54.9	56.0	58.5	47 41.10	0.16	28.84	13 48 10.10	17.23
	Lacaille 5773	29	36.7	38.8	40.2	50.8	51.9	53.2	54.5	55.7	6.5	7.7	10.0	49 53.27	0.15	28.84	13 50 22.26	16.88
	* — 38° 35′	30	22.8	25.4	27.1	39.0	40.4	41.9	43.4	45.0	57.2	58.7	1.1	52 42.00	0.19	28.84	13 53 11.03	18.18
	* — 37° 7′	31	11.3	13.6	15.3	27.3	28.4	30.0	31.5	32.8	44.8	46.3	48.8	55 30.01	+ 0.19	28.84	13 55 59.04	18.07
	Lacaille 5812	32	. .	. .	. .	. .	. .	. .	1.2	4.0	5.8	7.3	9.0	58 5.46	— 41.98	28.84	13 57 52.32	18.10
	* — 32° 24′	33	40.5	42.9	44.5	55.8	56.9	58.4	59.8	1.0	12.3	13.8	16.1	59 58.36	+ 0.17	28.84	14 0 27.37	17.64
	Moon I	34	15.7	16.8	19.2	29.2	30.2	31.5	32.7	33.9	44.1	45.3	47.4	4 31.45	0.13	28.84	14 5 0.42	. .
	Moon II	35	27.3	29.4	30.7	40.7	41.7	43.0	44.2	45.4	55.5	56.9	59.0	6 43.07	0.13	28.84	14 7 12.04	. .
	λ Virginis	36	4.2	6.2	7.4	17.2	18.2	19.5	20.7	21.7	31.6	32.8	34.9	11 19.49	0.12	28.84	14 11 48.45	16.12
	2 Libræ	37	25.6	27.7	28.9	38.6	39.6	41.8	42.0	43.0	52.9	54.2	56.3	15 41.87	+ 0.12	28.84	14 16 10.83	16.02
	O. Arg. S. 13626	38	20.4	21.9	23.4	24.8	27.4	. .	34.9	37.7	39.1	40.5	42.0	19 1.21	— 0.12	28.84	14 19 29.93	17.38
	O. Arg. S. 13629	39	52.7	55.2	56.7	7.3	8.4	9.9	11.1	12.4	23.1	24.5	26.4	19 9.79	+ 0.15	28.84	14 19 38.78	17.38
	O. Arg. S. 13647	40	58.3	0.3	2.0	12.6	13.7	15.0	16.3	17.6	28.4	29.7	32.0	20 15.08	0.15	28.84	14 24 15.22	17.39
	O. Arg. S. 13697	41	29.5	31.8	33.0	43.7	44.8	46.2	47.5	48.7	59.5	0.8	3.0	23 46.23	0.15	28.84	14 24 15.22	17.42
	ρ Bootis	42	14.5	16.8	18.3	29.5	30.6	31.9	33.1	34.1	45.8	47.1	49.6	25 31.94	+ 0.07	28.84	14 26 0.85	13.09
	O. Arg. S. 13799	43	. .	. .	. .	50.2	51.7	53.8	10.8	13.4	14.8	16.3	17.8	32 6.10	— 28.93	28.84	14 32 6.01	17.43
	O. Arg. S. 13847	44	45.5	47.6	49.0	59.8	0.9	2.3	3.6	4.7	15.6	16.8	19.3	34 2.28	+ 0.15	28.84	14 34 31.27	17.53
	* — 25° 15′	45	27.1	29.3	30.7	41.1	42.2	43.6	44.8	46.0	56.7	57.9	0.3	36 43.61	0.15	28.84	14 37 12.60	17.35
	56 Hydræ	46	6.7	8.8	10.2	20.6	21.8	23.2	24.4	25.6	36.4	37.7	39.9	39 23.21	0.15	28.84	14 39 52.20	17.40
	α Libræ	47	40.4	42.4	43.6	53.5	54.4	55.7	56.9	58.0	8.0	9.2	11.3	42 55.76	0.13	28.84	14 43 24.73	16.45
R.	α Andromedæ	48	36.6	39.0	40.4	51.2	52.3	53.8	55.0	56.2	7.0	8.5	10.7	0 53.70	+ 0.15	28.67	0 1 22.52	13.05
	Venus I	†49	52.6	54.0	55.2	56.4	58.6	. .	59.0	1.4	2.5	3.8	5.2	37 28.87	— 0.14	28.67	0 37 57.40	. .
	Venus II	50	14.2	16.2	17.5	27.0	28.1	29.3	30.5	31.5	41.1	42.4	44.5	37 29.30	+ 0.10	28.67	0 37 58.07	. .
	Polaris	51	. .	. .	. .	47.0	27.0	18.0	5.0	49.0	. .	. .	. .	8 17.20	+ 8.41	+28.67	. . . .	— 51.75

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 21, 12.1	+ 28.84	0.000	+ 0.100

49. Correction for defective illumination of first limb $-0^{s}.01$.

April 21–22, 0h. to 15h. n. $= +0^{s}.06$.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 22	Sun I	1	31.2	33.3	34.6	44.3	45.5	46.7	47.9	49.0	58.8	0.0	2.0	0 46.66	+ 0.12	+28.67	2 1 15.45	. .
R.	Sun II	2	42.2	44.0	45.4	55.1	56.2	57.3	58.7	59.7	9.7	10.9	13.0	2 57.47	0.12	28.67	2 3 26.26	. .
	α Tauri	3	23.5	25.5	27.0	36.9	37.9	39.1	40.3	41.4	51.5	52.7	54.8	27 39.15	0.12	28.68	4 28 7.95	— 14.54
	β Tauri	4	57.1	59.2	0.6	11.4	12.6	13.9	15.3	16.5	27.5	28.8	31.0	17 13.99	0.15	28.69	5 17 42.83	16.22
Y.	δ Orionis	5	20.6	22.5	23.8	33.3	34.3	35.5	56.7	37.8	47.4	48.6	50.6	24 35.55	0.10	28.72	. . . .	13.04
	ε Orionis	6	35.8	37.9	39.1	48.5	49.5	50.7	51.9	53.0	2.6	3.8	5.8	28 50.78	0.10	28.72	. . . .	12.97
	α Orionis	7	5.7	7.6	9.0	18.4	19.5	20.8	22.0	23.0	32.7	33.9	35.9	47 20.77	0.11	28.72	. . . .	13.98
R.	α Virginis	8	12.9	14.9	16.3	25.5	26.7	28.0	29.2	30.3	40.0	41.0	43.1	35 27.99	0.10	28.72	14 35 56.81	15.64
	α Libræ	†9	40.4	42.6	43.7	53.8	54.8	56.0	57.2	58.2	8.2	9.5	11.6	42 56.00	0.09	28.72	14 43 24.81	16.46
Y.	α Andromedæ	10	36.8	39.0	40.5	. .	52.3	53.8	55.1	56.3	7.2	8.6	10.9	0 54.05	0.00	28.49	0 1 22.54	13.07
	Venus I	11	44.0	45.9	47.2	56.7	57.8	59.0	0.1	2.2	10.9	12.1	14.0	41 59.08	+ 0.11	28.49	0 42 27.68	. .
	Venus II	12	23.5	25.0	26.3	27.4	29.8	. .	29.9	32.4	33.7	35.0	36.3	41 59.93	— 0.13	28.49	0 42 28.29	. .
	Polaris	13	8.0	26.0	15.5	41.0	21.0	10.0	58.0	41.0	12.0	59.0	21.0	8 12.05	+ 14.17	28.49	. . . .	— 52.17
23	Sun I	†14	16.4	18.4	19.7	29.4	30.4	31.7	32.9	33.9	43.9	45.2	47.2	4 31.74	0.16	28.48	2 5 0.38	. .
	Sun II	15	27.2	29.1	30.5	40.3	41.2	42.5	43.8	44.8	54.7	55.8	58.0	6 42.54	0.16	28.48	2 7 11.18	. .
	Mercury I	16	59.6	1.3	2.5	3.8	6.3	. .	10.7	13.3	14.6	16.1	17.4	18 38.43	0.05	28.48	3 19 6.96	+ 0.23
	Mercury I	17	22.2	24.4	25.7	35.9	37.0	38.4	39.6	40.6	51.0	52.2	54.4					
	α Tauri	18	23.6	25.8	27.1	37.0	38.0	39.3	40.5	41.6	51.6	52.9	55.0	27 39.31	0.16	28.47	4 28 7.94	— 14.53
	β Tauri	19	57.1	59.4	0.9	11.6	12.8	14.2	15.5	16.7	27.7	29.0	31.3	17 14.20	0.21	28.47	5 17 42.88	16.21
	δ Orionis	20	20.8	22.7	24.0	33.4	34.6	35.7	36.9	37.9	47.6	48.8	50.9	24 35.75	0.10	28.47	5 25 4.32	13.03
	δ Orionis	21	36.0	38.0	39.3	48.7	49.8	50.9	52.1	53.2	2.8	4.0	5.9	28 50.97	0.10	28.47	5 28 19.54	12.96
	O. Arg. S. 10346	22	55.4	57.7	59.0	9.9	11.0	12.4	13.6	14.8	25.7	27.0	29.2	58 12.34	+ 0.06	28.44	9 58 40.84	13.14
	O. Arg. S. 10351	23	. .	. .	. .	48.5	50.0	52.0	9.3	11.9	13.3	14.8	16.3	59 4.51	— 29.27	28.44	9 59 3.68	13.14
	* — 13° 10′	24	38.7	40.9	42.1	51.8	52.8	54.0	55.3	56.4	6.2	7.4	9.6	2 54.11	+ 0.13	28.44	10 3 22.68	15.16
	Weisse 75	25	25.9	27.8	29.0	38.8	39.8	41.0	42.3	43.4	53.3	54.5	56.5	5 41.12	0.13	28.44	10 6 9.69	15.14
	Weisse 116	26	12.8	14.8	16.2	25.8	26.9	28.1	29.4	30.4	40.2	41.5	43.5	7 28.15	0.13	28.44	10 7 56.72	15.12
	γ Leonis (1st *)	27	46.0	48.1	49.4	59.5	0.7	1.9	3.2	4.4	14.7	15.9	18.2	12 2.00	+ 0.14	28.44	10 12 30.58	15.60
	γ Leonis (2d *)	28	23.8	25.3	26.5	27.8	30.3	. .	34.4	36.9	38.3	39.6	41.2	12 2.41	— 0.11	28.44	10 12 30.74	15.51
	* — 11° 22′	29	29.3	31.4	32.7	42.2	43.2	44.4	45.7	46.7	56.3	57.5	59.6	15 44.45	+ 0.08	28.44	10 16 12.97	14.14
	* — 11° 18′	30	14.1	16.2	17.4	26.9	28.0	29.2	30.4	31.4	41.2	42.3	44.4	17 29.23	0.08	28.44	10 17 57.75	14.16
	Lacaille 4363	31	31.0	33.3	34.8	45.5	46.7	47.9	49.3	50.4	1.4	2.8	5.0	29 48.01	0.06	28.44	10 30 16.51	13.70
	Weisse 618	32	25.7	27.7	29.0	38.8	39.7	40.9	42.1	43.2	53.0	54.3	56.4	34 40.98	0.12	28.44	10 35 9.54	15.06
	Weisse (2) 776	33	48.9	51.4	52.9	4.7	5.7	7.2	8.8	10.0	22.1	23.9	26.1	38 7.43	0.20	28.44	10 38 36.07	16.17
	l Leonis	34	25.0	27.0	28.3	37.9	38.9	40.2	41.4	42.4	52.3	53.5	55.6	41 40.23	0.12	28.44	10 42 8.79	15.05
	Dorpat 1482 (1st *)	35	23.2	25.3	26.5	36.0	37.0	38.3	39.5	40.5	50.4	51.5	53.5	44 38.34	+ 0.12	28.44	10 45 6.90	14.97
	Dorpat 1482 (2d *)	36	2.6	4.0	5.2	6.4	8.8	. .	9.4	11.9	13.2	14.5	15.8	44 39.18	— 0.12	28.44	10 45 7.50	14.97
	* + 8° 9′	37	. .	. .	. .	. .	. .	. .	29.4	31.9	33.1	34.5	35.7	45 32.92	33.88	28.44	10 45 27.48	14.96
	Dorpat 1487 (1st *)	38	. .	. .	. .	1.5	2.9	5.2	22.0	24.7	26.0	27.4	28.9	48 17.32	28.66	28.44	10 48 17.10	15.54
	O. Arg. S. 11015	39	. .	. .	. .	0.4	1.5	3.0	4.3	5.4	16.4	17.7	19.9	51 8.58	— 5.53	28.44	10 51 31.49	14.11
	Lacaille 4567	40	11.5	14.0	15.7	28.3	29.6	31.0	32.6	33.9	46.7	48.3	50.8	55 31.13	+ 0.05	28.44	10 55 59.62	13.91
	Lacaille 4607	41	43.3	45.8	47.4	59.4	0.7	2.2	3.7	5.0	17.1	18.5	21.3	1 2.22	0.06	28.44	11 1 30.72	14.11
	(* 124) W.	42	27.1	31.2	33.6	52.3	54.4	56.7	58.8	1.0	19.9	22.1	26.0	4 56.65	0.33	28.44	11 5 25.42	17.41
	O. Arg. N. 11674	43	36.5	43.3	47.2	18.5	21.8	26.0	30.1	33.5	5.6	9.6	16.1	12 26.20	+ 0.58	28.44	11 12 55.22	19.58
	Weisse 261	44	. .	. .	. .	45.4	46.4	47.7	48.8	49.8	59.5	0.6	2.7	15 52.61	— 4.86	28.44	11 16 16.19	14.92
	83 Leonis (1st *)	45	11.3	13.3	14.4	24.0	25.0	26.3	27.5	28.6	38.3	39.4	41.3	19 26.31	+ 0.11	28.44	11 19 54.86	14.93
	83 Leonis (2d *)	46	51.2	52.6	53.9	55.0	57.4	.	57.5	0.0	1.3	2.5	3.8	19 27.52	— 0.13	28.44	11 19 55.83	14.93
	(* 123) W.	47	. .	. .	. .	21.2	24.5	28.5	32.5	35.9	. .	. .	. .	22 28.52	+ 0.74	28.44	11 22 57.70	18.79
	O. Arg. N. 11873	48	1.8	7.9	11.9	41.9	45.2	48.8	52.7	56.2	26.4	30.3	37.0	26 49.10	0.56	28.44	11 27 18.10	18.33
	β Leonis	49	25.8	27.9	29.1	38.9	40.0	41.3	42.5	43.7	53.6	54.7	56.9	41 41.31	+ 0.13	28.43	11 42 9.87	14.88
	Weisse 895	50	. .	. .	. .	8.3	9.4	10.6	11.7	12.9	22.5	23.8	25.8	52 15.62	— 4.86	+28.43	11 52 39.19	— 15.01

9. Very faint; through clouds.
14. Fine observation of the sun.

		s.
April 22–23,	0h. to 3h. n.	= + 0.25.
23,	3h. to 6h.	0.18.
	9h. to 11h.	0.10.
	11h. to 15h.	0.08.
	15h. to 17h.	+ 0.04.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
April 22,	6.1	+ 28.69	+ 0.004	+ 0.100
23,	10.5	+ 28.44	— 0.005	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 23 Y.	O. Arg. N. 12337 .	1	18.9	26.8	31.7	9.4	13.5	18.0	23.0	27.3	5.4	10.4	18.5	59 18.45	+ 0.70	+28.43	11 59 47.58	— 16.63
	O. Arg. S. 12170 .	2	36.6	38.8	40.1	51.0	52.1	53.4	54.6	56.0	6.8	8.2	10.4	19 53.45	0.07	28.43	12 20 21.95	15.73
	* — 32° 54′ . .	3	39.9	42.1	43.6	55.0	56.0	57.6	59.1	0.3	11.8	13.1	15.5	23 57.64	+ 0.07	28.43	12 24 26.14	15.98
	Lacaille 5220 . .	4	. .	. .	. .	11.0	12.4	13.8	15.0	16.3	27.6	29.2	31.4	29 19.59	— 5.74	28.43	12 29 42.28	16.02
	O. Arg. S. 12377 .	5	3.8	6.0	7.4	18.2	19.3	20.6	22.0	23.1	34.0	35.4	37.7	36 20.68	+ 0.07	28.43	12 36 49.18	15.99
	Lacaille 5278 . .	6	. .	. .	. .	58.4	59.6	0.9	2.3	3.6	15.2	16.4	18.9	39 6.91	— 5.81	28.43	12 39 29.53	16.27
	O. Arg. S. 12460 .	7	12.3	14.4	15.7	26.2	27.2	28.6	29.8	30.9	41.8	43.0	45.4	42 28.66	+ 0.07	28.43	12 42 57.16	16.02
	B. A. C. 4345 . .	8	26.2	28.0	29.5	31.1	34.2	. .	51.6	54.5	56.2	57.8	59.5	49 12.86	— 0.12	28.43	12 49 41.17	14.14
	a Canum Venaticorum	9	54.6	57.3	58.8	11.0	12.3	13.9	15.4	16.7	29.0	30.6	33.2	49 13.89	+ 0.19	28.43	12 49 42.51	14.05
	Saturn I . . .	10	56.5	57.8	59.0	0.2	2.5	. .	2.7	5.0	6.1	7.5	8.8	52 32.61	— 0.14	28.43	12 53 0.90	. .
	Saturn II . . .	11	18.7	20.6	21.8	31.3	32.3	33.5	34.7	35.8	45.5	46.6	48.7	52 33.59	+ 0.10	28.43	12 53 2.12	. .
	* — 34° 20′ . .	†12	32.3	34.6	36.3	47.9	49.0	50.2	51.7	53.1	4.9	6.3	8.8	57 50.46	+ 0.07	28.43	12 58 18.96	16.74
	Polaris, S. P. . .	13	. .	. .	. .	4.5	24.5	36.0	48.0	4.0	. .	. .	. .	8 35.40	— 9.22	28.43	. . . .	. .
	a Virginis	14	21.3	23.4	24.5	34.3	35.2	36.5	37.7	38.8	48.6	49.8	51.8	17 36.54	+ 0.09	28.43	13 18 5.06	15.68
	O. Arg. S. 12908 .	15	21.3	23.5	24.7	35.0	36.1	37.4	38.7	39.9	50.4	51.7	53.9	22 37.51	0.07	28.43	13 23 6.01	16.40
	ζ Virginis	16	5.4	7.3	8.6	18.0	19.2	20.4	21.5	22.5	32.2	33.3	35.3	37 20.34	0.10	28.42	13 27 48.86	15.15
	O. Arg. S. 14624 .	17	33.9	36.1	37.5	47.7	48.8	50.0	51.3	52.4	2.9	4.0	6.3	23 50.08	0.09	28.42	15 24 18.59	17.30
	γ Libræ	18	14.6	16.7	17.9	27.7	28.7	30.0	31.2	32.3	42.3	43.4	45.6	27 30.04	0.09	28.41	15 27 58.54	16.56
	O. Arg. S. 14710 .	19	18.2	20.3	21.7	32.6	33.6	35.0	36.3	37.5	48.4	49.7	52.0	29 35.03	0.09	28.41	15 30 3.53	18.06
	κ Libræ	20	25.8	27.9	29.1	39.2	40.3	41.6	42.8	44.0	54.2	55.3	57.6	33 41.62	0.09	28.41	15 34 10.12	17.09
	a Serpentis . . .	21	53.6	55.5	56.8	6.4	7.3	8.6	9.8	10.9	20.5	21.7	23.9	37 8.64	0.10	28.41	15 37 37.15	14.64
	O. Arg. S. 14925 .	22	41.6	43.9	45.3	56.0	57.0	58.3	59.5	0.8	11.5	12.8	15.0	41 58.34	0.09	28.41	15 42 26.84	17.90
	λ Libræ	23	45.5	47.6	48.9	59.0	0.0	1.3	2.6	3.7	13.9	15.2	17.4	45 1.37	0.09	28.41	15 45 29.87	17.18
	O. Arg. S. 15023 .	24	11.3	13.5	14.8	25.4	26.4	27.9	29.2	30.4	41.0	42.3	44.5	47 27.88	0.09	28.41	15 47 56.38	17.88
	π Scorpii	25	56.0	58.2	59.5	10.2	11.3	12.6	13.9	15.0	25.8	27.0	29.3	50 12.62	0.09	28.41	15 50 41.12	17.91
	δ Scorpii	26	36.5	38.6	39.9	50.2	51.5	52.5	53.8	54.9	5.3	6.7	8.8	51 52.58	0.09	28.41	15 52 21.08	17.48
	β Scorpii	27	50.7	52.9	54.2	4.4	5.4	6.6	7.9	9.0	19.3	20.5	22.6	57 6.68	0.09	28.41	15 57 35.18	17.18
	Moon II . . .	28	30.8	33.0	34.4	44.7	45.8	47.0	48.5	49.6	0.0	1.3	3.6	58 47.15	0.09	28.41	15 59 15.65	. .
	c^2 Scorpii	29	13.8	16.1	17.6	28.2	29.3	30.6	32.0	33.3	44.0	45.4	47.7	3 30.73	0.09	28.41	16 3 59.23	18.20
	O. Arg. S. 15466 .	30	16.8	19.0	20.3	30.5	31.6	32.9	34.0	35.2	45.6	46.7	48.9	8 32.86	0.09	28.41	16 9 1.36	17.37
	σ Scorpii	31	13.9	16.2	17.3	27.8	28.9	30.2	31.6	32.8	43.4	44.8	46.9	12 30.35	0.09	28.41	16 12 58.85	17.92
	O. Arg. S. 15590 .	32	27.6	29.8	31.0	41.1	42.2	43.5	44.7	45.8	56.0	57.2	59.6	15 43.50	0.09	28.41	16 16 12.00	17.24
	a Scorpii	33	22.6	24.9	26.1	36.7	37.8	39.2	40.4	41.6	52.5	53.7	55.9	20 39.22	0.09	28.41	16 21 7.72	18.04
25 R.	Sun I	34	47.8	50.0	51.3	1.1	2.2	3.3	4.6	5.6	15.5	16.5	18.7	12 3.33	0.11	27.97	2 12 31.41	. .
	Sun II	†35	59.2	1.3	2.5	12.3	13.2	14.6	15.9	17.0	26.8	27.9	30.0	14 14.61	0.11	27.97	2 14 42.69	. .
	β Tauri	36	57.6	0.0	1.3	12.2	13.3	14.6	16.0	17.2	28.3	29.6	32.1	17 14.75	0.11	27.97	. . . .	16.19
	O. Arg. S. 11796 .	37	29.5	31.7	33.0	43.8	44.9	46.2	47.6	48.7	59.6	0.8	3.0	50 46.25	0.14	27.97	11 51 14.36	15.18
	o Virginis	†38	36.4	38.3	39.5	49.3	50.3	51.5	52.6	53.8	3.4	4.6	6.7	57 51.49	+ 0.11	27.97	. . . .	14.91
Y.	*a* Andromedæ . .	39	37.4	39.8	41.2	. .	53.2	54.5	55.8	57.0	8.0	9.3	11.5	0 54.77	— 0.17	27.98	0 1 22.58	13.13
26	Sun II	40	45.7	47.7	49.0	58.7	59.7	1.0	2.3	3.4	13.2	14.5	16.6	18 1.07	+ 0.09	27.97	2 18 29.13	65.67
	η Tauri	41	. .	. .	. .	. .	. .	. .	29.9	32.6	33.9	35.3	36.8	39 33.70	— 36.66	27.97	3 39 25.01	14.94
	O. Arg. S. 10346 .	42	56.0	58.2	59.5	10.3	11.5	12.7	14.0	15.3	26.2	27.5	29.8	58 12.82	+ 0 19	27.95	9 58 40.96	13.09
	O. Arg. S. 10351 .	43	. .	. .	. .	33.0	34.3	35.6	36.9	38.1	49.0	50.3	52.6	58 41.22	— 5.40	27.95	9 59 3.77	13.10
	O. Arg. S. 10387 .	44	. .	. .	. .	6.2	7.4	8.6	9.9	11.1	21.6	22.8	25.0	1 14.08	— 5.23	27.95	10 1 36.80	13.36
	Lacaille 4186 . .	45	20.6	23.3	25.0	37.5	38.7	40.3	42.0	43.3	56.0	57.5	0.3	5 40.41	+ 0.25	27.95	10 6 8.61	12.48
	* — 38° 39′ . .	46	37.3	40.0	41.6	53.9	55.0	56.5	58.2	59.4	11.7	13.1	15.8	7 56.59	0.24	27.95	10 8 24.78	12.65
	* — 38° 36′ . .	47	2.7	5.2	6.8	19.0	20.2	21.7	23.4	24.6	37.0	38.5	41.0	9 21.83	+ 0.24	27.95	10 9 50.02	12.69
	γ Leonis	48	. .	. .	. .	14.9	16.4	18.6	34.8	37.4	38.7	40.0	41.4	12 30.28	— 27.71	27.95	10 12 30.52	15.56
	* — 35° 32′ . .	49	14.5	17.0	18.4	30.2	31.4	32.8	34.4	35.6	47.5	48.8	50.3	15 32.81	+ 0.22	27.95	10 16 0.98	13.02
	* — 35° 39′ . .	50	25.5	27.8	29.4	41.1	42.3	43.7	45.2	46.5	58.3	59.8	2.0	21 43.78	+ 0.22	+27.95	10 22 11.95	— 13.17

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
	h. s.	s.	s.
April 25,	8.6 + 27.97	0.000	+ 0.110
26,	10.5 + 27.95	— 0.003	. .

12. Faint.
35. Both limbs badly defined.
38. Very cloudy.

April 25–26, 0h. to 4h. n. = *s.* — 0.08.
26, 9h. to 11h. — 0.12.

April 23, 16h. 30m. Image *r.* 0.00. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 26 Y.	O. Arg. S. 10684	1	40.8	43.2	44.5	55.0	56.1	57.5	58.7	59.9	10.5	11.6	13.8	23 57.43	+ 0.18	+27.95	10 24 25.56	— 13.69
	* — 35° 40′	2	39.7	42.0	43.6	55.3	56.5	58.0	59.5	0.9	- -	- -	- -	28 51.94	6.36	27.95	10 29 26.25	13.33
	Lacaille 4387	3	22.3	24.8	26.4	38.4	39.5	40.8	42.4	43.6	55.7	57.0	59.6	32 40.95	0.22	27.95	10 33 9.12	13.41
	* — 35° 39′	4	19.6	22.1	23.6	35.3	36.5	38.0	39.4	40.6	52.6	53.9	56.6	29 38.02	0.22	27.95	10 30 6.19	13.35
	* — 35° 49′	5	2.0	4.4	5.7	17.5	18.6	20.0	21.6	22.8	- -	- -	- -	36 14.08	6.37	27.95	10 36 48.40	13.51
	B. A. C. 3755	6	39.1	41.5	43.0	54.8	55.9	57.6	58.9	0.3	12.4	13.8	16.2	49 57.59	+ 0.23	27.95	10 50 25.77	13.82
	O. Arg. S. 11020	7	- -	- -	- -	- -	- -	- -	6.2	8.8	10.2	11.6	13.0	52 9.96	— 36.51	27.95	10 52 1.40	14.18
	Lacaille 4558	8	51.9	54.7	56.3	8.8	10.0	11.6	13.3	14.5	27.0	28.5	31.2	54 11.62	+ 0.24	27.95	10 54 39.81	13.84
	Lacaille 4576	9	4.0	6.5	8.0	20.5	21.8	23.4	24.8	26.3	38.8	40.3	42.8	57 23.38	0.24	27.95	10 57 51.57	13.94
	O. Arg. S. 11154	10	11.0	13.2	14.6	25.5	26.5	27.9	29.2	30.5	41.4	42.6	45.0	0 27.95	0.21	27.95	11 0 56.11	14.25
	δ Leonis	11	10.7	12.9	14.2	24.4	25.4	26.7	28.0	29.0	39.4	40.8	42.9	6 26.76	0.06	27.95	11 6 54.77	15.31
	O. Arg. S. 11267	12	34.4	36.6	38.0	49.0	50.3	51.6	52.8	54.1	5.4	6.7	9.0	8 51.63	0.22	27.95	11 9 19.80	14.36
	δ Crateris	13	51.7	53.8	55.0	4.7	5.8	7.1	8.4	9.5	19.2	20 5	22.5	12 7.11	+ 0.15	27.95	11 12 35.21	14.60
	Weisse 253	14	- -	- -	- -	28.2	29.4	31.5	47.0	49.5	50.8	52.0	53.3	14 42.71	— 26.43	27.95	11 14 44.23	14.68
	Weisse 284	15	5.4	7.4	8.7	18.0	19.1	20.3	21.4	22.5	32.3	33.4	35.4	17 20.35	+ 0.10	27.95	11 17 48.40	— 14.88
	B. A. C. 8213, S. P.	16	- -	- -	- -	50.0	34.5	12.5	53.0	36.0	- -	- -	- -	26 13.20	+ 0.04	27.95	23 26 41.19	+ 8.19
	O. Arg. S. 11656	17	- -	- -	- -	- -	- -	- -	36.7	39.5	40.7	42.2	43.5	40 40.52	— 37.19	27.95	11 40 31.28	— 14.97
	* — 36° 57′	18	- -	- -	- -	35.3	36.5	39.1	58.0	1.2	2.7	4.3	5.9	43 52.88	— 32.29	27.95	11 43 48.54	12.01
	* — 36° 59′	19	40.8	43.3	45.0	56.9	58.0	59.4	0.9	2.3	14.4	15.7	18.5	44 59.56	+ 0.26	27.95	11 45 27.77	15.20
	B. A. C. 4034	20	16.7	19.2	20.9	32.9	34.1	36.0	37.4	38.6	51.3	52.7	55.3	48 35.92	+ 0.27	27.95	11 49 4.14	15.30
	B. A. C. 4070	21	- -	- -	- -	59.2	14.7	35.2	53.0	10.0	- -	- -	- -	57 34.42	— 0.03	27.95	11 58 2.34	24.22
	ε Corvi	22	26.8	28.9	30.3	40.5	41.6	42.8	44.1	45.3	55.7	56.8	59.2	2 42.91	+ 0.18	27.95	12 3 11.04	15.29
	O. Arg. S. 11995	23	9.0	11.4	12.8	23.8	24.9	26.3	27.7	28.9	40.1	41.5	43.7	5 26.38	+ 0.22	27.95	12 5 54.55	15.52
	* — 25° 47′	24	52.2	53.9	55.2	56.5	59.1	- -	5.9	8.6	9.8	11.4	12.8	8 32.54	— 0.06	27.95	12 9 0.43	15.46
	* — 25° 49′	†25	18.9	20.9	22.4	33.0	34.1	35.4	36.8	37.9	48.7	49.9	52.0	8 35.46	+ 0.20	27.95	12 9 3.61	15.46
	O. Arg. S. 12082	26	9.7	11.9	13.3	23.9	24.9	26.3	27.7	28.8	39.5	40.6	43.0	12 26.33	0.20	27.95	12 12 54.48	15.53
	O. Arg. S. 12101	27	29.9	32.0	33.4	43.8	45.0	46.5	47.9	48.9	59.6	0.9	3.2	13 46.46	+ 0.20	27.94	12 14 14.60	15.55
	O. Arg. S. 12116	28	- -	- -	- -	- -	- -	- -	29.9	32.7	34.0	35.5	37.0	15 33.82	— 36.49	27.94	12 15 25.29	15.50
	O. Arg. S. 12134	29	20.8	23.0	24.3	34.7	35.8	37.0	38.4	39.4	50.0	51.2	53.5	16 37.10	+ 0.19	27.94	12 17 5.23	15.53
	O. Arg. S. 12170	30	36.8	38.9	40.4	51.2	52.3	53.6	55.0	56.3	7.1	8.5	10.8	19 53.72	0.21	27.94	12 20 21.87	15.72
	* — 32° 54′	31	40.1	42.2	43.9	55.1	56.4	57.8	59.2	0.5	12.1	13.4	15.8	23 57.86	0.24	27.94	12 24 26.04	15.97
	β Corvi	32	33.6	35.8	37.0	47.5	48.6	49.8	51.0	52.1	2.7	3.9	6.3	26 49.85	0.18	27.94	12 27 17.97	15.64
	Lacaille 5220	33	56.6	59.0	0.4	11.6	12.8	14.0	15.4	16.7	25.9	29.4	31.9	29 14.06	+ 0.23	27.94	12 29 42.23	16.02
	O. Arg. S. 12332	34	- -	- -	- -	19.6	20.8	23.0	40.0	42.7	43.9	45.4	46.8	33 35.28	— 28.76	27.94	12 33 34.46	15.87
	O. Arg. S. 12523	35	43.1	45.1	46.6	57.3	58.6	59.8	- -	- -	13.0	14.3	16.4	47 59.36	+ 0.61	27.94	12 48 27.91	16.10
	O. Arg. S. 12529	36	33.9	36.1	37.4	48.1	49.3	50.7	51.9	53.0	- -	- -	- -	48 45.05	+ 5.78	27.94	12 49 18.77	16.14
	O. Arg. S. 12533	37	- -	- -	- -	14.7	16.0	18.2	35.4	37.9	39.4	40.7	42.3	49 30.58	— 28.91	27.94	12 49 29.61	16.14
	Saturn I	38	32.3	34.3	35.5	45.0	46.0	47.2	48.5	49.5	59.2	0.2	2.2	51 47.26	+ 0.12	27.94	12 52 15.32	- -
	Saturn II	39	12.5	14.0	15.2	16.2	18.5	- -	18.6	21.0	22.3	23.6	24.9	51 48.68	— 0.12	27.94	12 52 16.50	- -
	Weisse 909	40	55.7	57.7	59.0	8.5	9.5	10.7	11.8	12.9	22.6	23.8	25.8	53 10.73	+ 0.12	27.94	12 53 38.79	15.26
	* — 34° 22′	41	32.7	35.2	36.6	48.2	49.4	50.9	52.2	53.6	5.3	6.5	8.9	57 50.86	0.24	27.94	12 58 19.04	16.74
	θ Virginis	42	14.5	16.6	17.8	27.3	28.3	29.6	30.7	31.8	41.4	42.5	44.7	2 29.56	0.12	27.94	12 2 57.62	15.36
	Polaris, S. P.	43	- -	- -	- -	58.0	17.0	28.0	39.0	57.0	- -	- -	- -	8 27.80	0.10	27.94	- - - -	53.65
	Weisse 312	44	24.4	26.4	27.6	37.1	38.1	39.3	40.5	41.5	51.3	52.4	54.4	19 39.36	0.10	27.94	13 20 7.40	15.15
	71 Virginis	45	48.2	50.3	51.7	1.3	2.4	3.6	4.8	5.9	15.6	16.9	18.9	22 3.60	0.08	27.94	13 22 31.62	14.75
	Weisse 392	46	55.9	58.0	59.1	8.8	9.8	11.0	12.3	13.3	23.2	24.2	26.5	24 11.10	0.09	27.94	13 24 39.13	14.86
	ζ Virginis	47	5.8	7.8	9.0	18.6	19.6	20.8	22.0	23.0	32.7	33.8	35.9	27 20.82	+ 0.11	27.94	13 27 48.87	15.16
	O. Arg. S. 17094	48	24.1	26.0	27.3	53.0	54.2	56.5	12.9	15.6	16.8	18.2	19.7	33 56.75	— 16.51	27.84	17 34 8.08	17.72
	Dorpat 2204 (1st *)	49	0.3	2.3	3.4	12.9	13.9	15.2	16.3	17.5	27.2	28.4	30.4	38 15.25	+ 0.16	27.84	17 38 43.25	16.37
	Dorpat 2204 (2d *)	50	38.3	39.7	41.0	42.1	44.5	- -	46.6	49.0	50.4	51.5	53.1	38 15.62	— 0.08	+27.84	17 38 43.38	— 16.37

25. Faint.

April 26, 11h. to 14h. n. = — 0.16. (s.)
17h. to 19h. — 0.18.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
April 26, 10.5	+ 27.95	— 0.003	+ 0.110

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 26	Weisse 905	1	55.7	57.7	58.9	8.6	9.6	10.7	11.8	12.9	22.7	23.9	25.9	45 10.76	+ 0.13	+27.84	17 45 38.73	— 15.76
Y.	O. Arg. S. 17376	2	.	. .	. .	1.0	2.3	4.4	21.0	23.6	24.9	26.4	27.7	48 16.41	— 28.13	27.84	17 48 16.12	17.60
	Dorpat 2245 (1st *)	3	. .	. .	. .	58.6	59.6	0.9	2.1	3.3	. .	. .	. .	50 0.90	+ 0.10	27.84	17 50 28.84	12.90
	Dorpat 2245 (2d *)	4	. .	. .	. .	13.6	14.7	16.8	33.0	35.5	. .	38.0	. .	50 25.27	— 24.07	27.84	17 50 29.04	12.90
	Dorpat 2281	5	. .	. .	. .	20.5	21.5	22.6	23.8	24.9	34.5	35.8	37.9	2 27.69	— 4.87	27.84	18 02 50.66	14.41
	μ Sagittarii	6	56.5	58.7	0.0	10.2	11.3	12.6	13.9	15.0	25.4	26.5	28.8	5 12.63	+ 0.19	27.84	18 5 40.66	17.22
	O. Arg. S. 18015	†7	3.0	5.0	6.5	16.5	17.5	18.7	20.0	21.2	. .	. .	. .	10 13.55	+ 5.44	27.84	18 10 46.83	16.89
	δ Ursæ Minoris	8	. .	. .	. .	. .	. .	. .	. .	. .	7.5	28.0	. .	18 17.75	— 3 30.74	27.84	. . . .	75.17
	ε Pegasi	9	48.7	50.8	52.0	1.7	2.6	3.9	5.0	6.0	15.8	17.0	19.1	37 3.87	+ 0.09	27.83	21 37 31.79	13.18
	γ Pegasi	10	31.6	33.5	34.8	44.7	45.8	47.0	48.2	49.3	59.3	0.5	2.6	5 47.03	+ 0.11	27.82	0 6 14.96	13.11
R.	Venus I	11	26.6	28.2	29.3	30.5	32.7	.	33.4	35.5	36.8	38.2	39.4	0 3.06	— 0.13	27.82	1 0 30.75	. .
	Venus II	12	48.5	50.4	51.7	1.3	2.4	3.5	4.7	5.8	15.5	16.7	18.8	0 3.57	+ 0.11	27.82	1 0 31.50	. .
	Polaris	†13	. .	. .	. .	53.0	. .	23.0	10.0	55.0	. .	. .	. .	8 35.25	— 13.73	27.82	. . . .	53.47
27	Sun II	†14	32.9	34.8	36.1	46.0	47.0	48.3	49.5	50.7	0.7	1.8	3.5	20 48.30	+ 0.11	27.79	2 21 16.20	— 65.74
	Mercury I	†15	18.5	20.7	22.2	32.5	33.6	34.8	36.0	37.0	47.6	49.0	51.0	40 34.81	+ 0.11	27.79	3 41 2.71	+ 0.27
Y.	α Orionis	16	19.4	20.4	21.6	22.8	23.9	. .	52.0	54.5	55.7	57.0	58.4	47 38.57	— 16.84	27.79	5 47 49.52	— 13.92
	γ Geminorum	17	9.0	11.1	12.4	22.1	23.3	24.5	25.7	26.9	37.0	38.2	40.3	29 24.59	+ 0.12	27.79	6 29 52.50	15.09
	α Canis Majoris	18	26.5	28.6	29.9	39.7	40.8	42.1	. .	44.3	54.4	55.6	57.7	38 41.96	0.23	27.79	6 39 9.98	11.40
R.	Moon II	19	51.2	53.4	54.7	5.0	6.0	7.1	8.6	9.6	19.9	21.1	23.4	59 7.27	0.11	27.69	19 59 35.07	. .
Y.	α Andromedæ	†20	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	28.9	31.7	33.1	34.6	36.2	1 32.90	38.15	27.82	0 1 22.63	13.17
	Venus II	†21	19.9	21.9	23.2	32.9	33.9	35.2	36.4	37.4	47.0	48.2	50.4	4 35.13	0.10	27.79	1 5 3.02	— 0.36
	Polaris	†22	. .	. .	. .	56.0	34.5	24.5	14.0	56.0	. .	. .	. .	8 25.00	3.55	27.79	. . . .	. .
28	Sun I	23	8.7	10.7	11.9	21.7	22.8	24.0	25.3	26.4	36.4	37.5	39.6	23 24.09	0.10	27.76	2 23 51.95	. .
	Sun II	24	20.4	22.3	23.6	33.4	34.4	35.6	36.9	38.0	48.0	49.2	51.2	25 35.73	0.10	27.76	2 26 3.59	. .
	Mercury I	25	5.4	7.6	9.0	19.2	20.3	21.7	22.9	24.1	34.5	35.8	38.1	45 21.69	0.09	27.73	3 45 49.51	+ 0.27
	α Tauri	26	24.7	26.8	27.9	37.9	38.8	40.0	41.4	42.5	52.6	53.7	55.7	27 40.18	0.09	27.71	4 28 7.98	— 14.51
	β Orionis	27	17.7	19.7	20.9	30.7	31.7	32.9	34.0	35.0	44.9	46.0	48.1	7 32.87	0.12	27.70	5 8 0.69	12.07
	β Tauri	28	58.0	0.3	1.6	12.5	13.7	15.0	16.2	17.4	28.6	29.9	32.2	17 15.04	0.09	27.69	5 17 42.82	16.16
	α Orionis	29	6.6	8.7	9.9	19.5	20.5	21.6	22.8	23.8	33.7	34.9	36.9	47 21.72	0.10	27.68	5 47 49.50	13.91
	* — 35° 30′	30	25.3	27.8	29.4	41.0	42.2	43.7	45.0	46.3	58.4	59.8	2.3	21 43.75	0.26	27.94	10 22 11.95	13.13
	ρ Leonis	31	58.0	0.0	1.2	10.9	11.9	13.1	14.3	15.4	25.2	26.4	28.5	25 13.17	0.08	27.94	10 25 41.19	14.95
	Lacaille 4363	32	31.4	33.5	34.9	45.7	46.9	48.3	49.7	50.9	1.7	3.2	5.4	29 48.33	+ 0.22	27.94	10 30 16.49	13.63
	O. Arg. N. 11041	33	. .	. .	. .	22.4	25.0	30.0	4.0	9.6	12.3	15.3	18.3	33 54.61	— 58.95	27.94	10 33 23.60	19.19
	* — 28° 20′	34	23.8	26.2	27.4	38.3	39.3	40.5	42.0	43.2	54.2	55.5	57.9	36 40.75	+ 0.22	27.94	10 37 8.91	13.75
	Lacaille 4450	35	59.1	1.8	3.4	15.7	17.0	18.7	20.2	21.6	34.2	35.7	38.2	39 18.69	0.29	27.94	10 39 46.92	13.36
	Σ. Cat. Gen. 1248	36	58.3	0.6	2.0	12.5	13.6	14.8	16.1	17.3	27.9	29.3	31.5	43 14.90	0.04	27.93	10 43 42.87	15.50
	χ Leonis	37	19.3	21.3	22.5	32.3	33.1	34.4	35.5	36.6	46.3	47.6	49.6	57 34.41	+ 0.09	27.93	10 58 2.43	14.82
	O. Arg. N. 11496	38	36.9	40.7	43.5	2.3	4.3	6.6	8.7	10.7	29.7	32.0	36.0	2 6.49	— 0.07	27.93	11 2 34.35	17.41
	O. Arg. N. 11518	39	43.2	47.0	49.4	8.3	10.3	12.9	15.2	17.1	36.2	38.5	42.5	3 12.78	0.07	27.93	11 3 40.64	17.37
	O. Arg. N. 11584	40	41.9	45.5	48.0	6.2	8.4	10.6	13.0	15.0	33.5	36.1	40.0	7 10.74	— 0.07	27.93	11 7 38.60	17.27
	O. Arg. N. 11674	41	37.8	44.5	48.5	20.1	23.3	27.3	31.5	34.7	6.9	10.9	17.6	12 27.56	+ 0.17	27.92	11 12 55.31	19.34
	83 Leonis (1st *)	42	11.7	13.7	15.0	24.5	25.5	26.7	27.9	28.9	38.6	39.7	41.6	19 26.71	+ 0.09	27.92	11 19 54.72	14.88
	83 Leonis (2d *)	43	51.8	53.0	54.2	55.4	57.8	. .	58.0	0.4	1.6	2.8	4.1	19 27.91	— 0.15	27.92	11 19 55.68	14.88
	Weisse 403	44	15.0	17.0	18.2	27.9	28.8	30.0	31.2	32.3	42.0	43.2	45.3	23 30.08	+ 0.12	27.92	11 23 58.12	14.26
	O. Arg. N. 11873	45	. .	. .	. .	43.5	46.5	50.5	54.2	57.2	. .	. .	.	26 50.38	— 0.01	27.92	11 27 18.29	18.13
	Carrington 1741	46	30.0	42.5	50.1	53.9	59.9	7.8	16.0	22.7	26.9	35.7	48.6	33 7.65	0.39	27.92	11 33 35.18	21.74
	O. Arg. N. 12020	47	29.7	34.2	37.8	12.7	17.0	24.2	18.8	27.1	31.9	36.4	41.3	37 39.19	— 1 9.45	27.92	11 36 57.66	17.98
	β Leonis	48	26.2	28.5	29.7	39.5	40.5	41.7	43.0	44.0	54.2	55.4	57.5	41 41.84	+ 0.07	27.91	11 42 9.82	14.84
	* — 37° 34′	49	12.2	14.8	16.3	28.4	29.5	30.9	32.5	33.9	46.1	47.5	50.2	45 31.12	0.27	27.91	11 45 59.30	15.20
	Radcliffe 2768	50	. .	. .	. .	23.6	25.0	26.5	28.0	29.6	. .	. .	. .	49 26.54	+ 0.06	+27.91	11 49 54.51	— 15.16

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
April 26, 1.8	+ 27.81	— 0.004	+ 0.110
28, 4.1	+ 27.72	— 0.025	. .

7. Through clouds.
13. Very unsteady.
14. Through clouds.
15. Very faint.
20. Faint; through clouds.
21. Very unsteady.
22. Faint and unsteady.

	s.
April 26–27 . . . . n. =	— 0.03.
27–28, 0h. to 6h.	0.07.
28, 10h. to 14h.	0.17.
20h. to 22h.	— 0.20.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 28	Radcliffe 2769	1	52.0	53.8	55.6	57.0	0.0	..	19.8	22.8	24.5	26.2	27.8	49 39.95	— 0.31	+27.91	11 50 7.55	— 15.15
Y.	Radcliffe 2771	2	..	..	..	46.3	47.6	49.2	50.7	52.1	..	..	..	49 49.18	+ 0.06	27.91	11 50 17.15	15.16
	* — 35° 8′	3	7.1	9.6	11.0	22.6	23.7	25.3	26.6	28.0	39.8	41.2	43.7	55 25.33	+ 0.26	27.91	11 55 53.50	15.40
	O. Arg. N. 12337	4	20.3	28.1	33.5	11.0	15.0	19.6	24.6	28.7	7.7	11.8	20.3	59 20.05	— 0.22	27.91	11 59 47.74	16.40
	O. Arg. S. 11995	5	8.8	11.2	12.7	23.7	24.8	26.3	27.7	28.9	40.2	41.5	43.9	5 26.34	+ 0.23	27.91	12 5 54.48	15.51
	O. Arg. S. 12057	6	11.5	13.6	14.9	25.4	26.5	27.7	29.0	30.0	40.4	42.0	44.2	10 27.75	0.19	27.90	12 10 55.84	15.42
η	Virginis	7	16.7	18.8	19.9	29.4	30.5	31.7	32.7	33.8	43.6	44.7	46.8	12 31.69	0.11	27.90	12 12 59.70	15.03
	Dorpat 1636 (1st *)	8	..	..	..	9.0	10.0	11.3	12.5	13.6	..	..	..	15 11.28	0.14	27.90	12 15 39.32	14.98
	Dorpat 1636 (2d *)	9	56.8	58.9	0.0	..	..	..	..	..	23.7	24.9	26.9	15 11.87	0.05	27.90	12 15 39.82	14.98
	O. Arg. S. 12161	10	49.6	52.0	53.4	4.0	5.1	6.6	7.8	9.0	19.7	21.0	23.4	19 6.51	+ 0.21	27.90	12 19 34.62	15.64
	* — 35° 11′	11	..	..	..	16.0	17.4	19.8	38.6	41.5	42.9	44.4	46.3	21 33.36	— 31.57	27.90	12 21 29.69	15.99
	* — 35° 6′	12	..	..	..	12.8	14.1	15.6	16.9	18.3	30.3	31.6	34.0	22 21.70	— 5.80	27.90	12 22 43.80	16.02
	Lacaille 5193	13	40.5	42.8	44.4	55.7	56.7	58.1	59.5	0.6	11.9	13.4	15.5	24 58.10	+ 0.23	27.90	12 25 26.23	15.94
	* — 31° 46′	14	34.0	36.5	37.9	49.2	50.3	51.7	53.0	54.3	5.7	7.0	9.4	25 51.73	+ 0.23	27.90	12 26 19.86	15.94
	* — 31° 47′	15	..	..	..	24.9	26.0	27.5	28.8	30.0	41.4	42.8	45.2	26 33.32	— 5.60	27.90	12 26 55.62	15.97
	Weisse 722	16	17.6	19.6	20.9	30.7	31.8	33.0	34.2	35.3	42.0	44.0	45.3	42 33.13	+ 0.15	27.89	12 43 1.17	15.50
	Weisse 728	17	..	..	..	54.9	55.9	57.2	58.5	59.6	9.4	10.5	12.7	43 2.34	— 4.92	27.89	12 43 26.31	15.50
	O. Arg. S. 12495	18	..	..	..	29.8	31.0	32.3	33.7	34.8	46.0	47.3	49.7	45 38.08	— 5.46	27.89	12 46 0.51	16.21
	O. Arg. S. 12520	19	29.2	31.6	32.9	43.9	45.0	46.3	47.7	48.9	59.9	1.3	3.6	47 46.39	+ 0.22	27.89	12 48 14.50	16.26
	Saturn I	20	41.8	43.1	44.4	45.7	47.9	..	48.0	50.6	51.7	52.9	54.3	51 18.04	— 0.12	27.89	12 51 45.81	..
	Saturn II	21	4.1	6.0	7.3	16.8	17.8	19.0	20.2	21.3	30.8	32.0	34.2	51 19.05	+ 0.12	27.89	12 51 47.06	..
	* — 16° 54′	22	9.3	11.3	12.6	22.5	23.5	24.7	26.0	27.0	37.2	38.4	40.6	56 24.83	0.17	27.89	12 56 52.89	15.81
	O. Arg. S. 12629	23	9.1	11.0	12.3	22.4	23.3	24.5	25.8	26.9	37.0	38.2	40.3	57 24.62	0.17	27.89	12 57 52.68	15.82
θ	Virginis	24	14.5	16.5	17.8	27.4	28.3	29.6	30.8	31.9	41.5	42.8	44.9	2 29.64	0.13	27.89	13 2 57.66	15.36
	Polaris, S. P.	25	..	..	..	56.5	16.5	29.0	41.0	57.5	..	..	..	8 28.10	+ 0.50	27.89	..	54.31
	O. Arg. S. 12802	26	34.5	35.7	37.0	38.3	39.6	..	10.8	13.6	14.8	16.3	17.7	12 55.83	— 18.59	27.88	13 13 5.12	16.51
	O. Arg. S. 12825	27	34.4	35.7	37.0	38.2	39.3	..	10.3	12.9	14.2	15.7	17.2	14 55.49	18.36	27.88	13 15 5.01	16.44
	Lalande 24816	28	..	..	..	36.8	38.0	40.4	57.0	59.8	1.1	2.4	3.7	16 52.40	28.37	27.88	13 16 51.91	16.43
	Weisse 304	29	..	..	..	..	..	..	46.9	49.3	50.5	52.0	53.2	19 50.38	— 33.68	27.88	13 19 44.58	15.48
	O. Arg. S. 12920	30	27.6	29.9	31.2	42.2	43.4	44.8	46.2	47.4	58.6	59.9	2.2	23 44.85	+ 0.23	27.88	13 24 12.96	16.94
ζ	Virginis	31	6.0	7.9	9.2	18.7	19.7	20.9	22.0	23.1	32.8	34.0	36.0	27 20.94	0.11	27.88	13 27 48.93	15.16
α	Cygni	32	0.5	3.2	5.0	18.4	19.8	21.5	23.1	24.5	38.2	40.0	42.9	36 21.55	0.05	27.74	20 36 49.24	9.65
	Moon II	33	7.0	9.2	10.5	20.4	21.5	22.8	23.9	25.0	35.1	36.5	38.6	57 22.77	0.16	27.73	20 57 50.66	..
ζ	Cygni	34	25.4	27.6	29.2	40.0	41.1	42.6	44.0	45.2	56.3	57.5	59.9	6 42.67	0.01	27.73	21 7 10.36	11.69
β	Aquarii	35	42.4	44.5	46.7	55.2	56.2	57.4	58.5	59.6	9.3	10.5	12.6	23 57.54	+ 0.12	27.72	21 24 25.38	14.21
β	Cephei	36	43.2	49.0	52.6	20.1	23.1	26.7	30.0	33.4	1.3	4.9	10.9	26 26.84	— 0.23	27.72	21 26 54.33	3.86
ε	Pegasi	37	48.7	50.9	52.1	1.7	2.7	4.0	5.2	6.2	15.9	17.1	19.2	37 3.97	+ 0.08	27.72	21 37 31.77	13.24
γ	Pegasi	38	31.8	33.8	35.1	44.9	45.9	47.3	48.4	49.5	..	..	..	5 42.09	+ 5.28	27.58	0 6 14.95	13.55
R.	Venus I	†39	30.0	31.6	32.7	34.0	36.5	..	37.0	39.5	40.6	41.9	43.3	9 6.74	— 0.12	27.39	1 9 33.98	..
	Venus II	†40	52.0	54.3	55.3	5.0	6.1	7.4	8.4	9.5	19.1	20.4	22.4	9 7.26	+ 0.12	27.39	1 9 34.77	..
	Polaris	41	..	..	..	22.0	9.0	34.0	45.0	22.0	13.0	8.0	3.0	25 57.00	—17 27.50	27.39	..	..
α	Arietis	42	24.6	26.2	27.3	29.6	31.2	..	..	..	..	..	..	58 27.78	+ 36.15	27.39	1 59 31.32	— 14.13
29	Sun I	43	57.0	58.9	0.1	10.0	11.0	12.3	13.5	14.6	24.4	25.8	27.9	27 12.32	0.13	27.39	2 27 39.84	..
	Sun II	44	8.6	10.5	11.7	21.9	22.9	24.1	25.4	26.4	36.4	37.7	39.7	29 24.12	0.13	27.39	2 29 51.64	..
	Mercury I	45	34.5	36.6	38.0	48.4	49.4	50.8	52.2	53.2	3.7	5.0	7.2	49 50.82	0.15	27.39	3 50 18.36	+ 0.28
α	Tauri	46	25.1	27.0	28.2	37.9	39.0	40.4	41.6	42.8	52.7	54.0	56.1	27 40.44	0.13	27.38	4 28 7.95	— 14.50
β	Orionis	47	18.1	20.2	21.4	31.2	32.2	33.4	34.5	35.5	45.4	46.4	48.6	7 33.35	0.10	27.38	5 8 0.83	12.07
β	Tauri	48	58.3	0.4	2.0	12.8	13.9	15.3	16.5	17.7	28.8	30.1	32.2	17 15.27	0.16	27.38	5 17 42.81	16.16
χ	Leonis	49	19.8	21.9	23.0	32.7	33.7	34.9	36.0	37.2	46.9	48.0	50.0	57 34.92	0.11	27.37	10 58 2.40	14.81
	O. Arg. S. 11208	50	12.0	14.2	15.5	26.1	27.2	28.6	29.9	31.0	41.7	43.0	45.2	3 28.58	+ 0.13	+27.37	11 3 56.08	— 14.31

39–40. Very unsteady and much blurred.

April 28–29, 0h. to 6h. n. = +0.07. (s.)
29, 10h. to 14h. = −0.02.

April 28, 13h. 45m. Image east 0.07. Clamp east. (r.)
Image west 0.33. Clamp west.
Image east 0.05. Clamp east.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
April 28,	16.4	+ 27.82	— 0.020
29,	9.0	+ 27.37	— 0.003

	c.
	s.
	+ 0.110
	..

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 29	O. Arg. S. 11216	1	. .	. .	. .	11.9	12.9	14.3	15.7	17.8	27.5	28.8	31.0	4 19.99	— 5.35	+27.37	11 4 42.00	— 14.33
R.	O. Arg. S. 11291	2	53.4	55.7	57.1	7.8	8.9	10.3	11.6	12.9	13.7	14.9	17.3	11 10.33	+ 0.14	27.36	11 11 37.83	14.42
	O. Arg. S. 11304	3	5.3	7.6	9.0	19.8	20.9	22.3	23.7	24.7	35.8	37.0	39.4	12 22.32	+ 0.14	27.36	11 12 49.82	14.44
	O. Arg. S. 11318	4	. .	. .	. .	. .	. .	. .	50.8	53.5	55.0	56.4	57.9	13 54.72	— 37.79	27.36	11 13 44.29	14.46
	Weisse 358	5	26.0	28.1	29.2	38.7	39.6	40.9	42.1	43.2	52.8	54.0	56.0	20 40.96	+ 0.11	27.36	11 21 8.43	14.83
	B. A. C. 3909	6	47.0	49.0	50.2	59.8	0.8	2.0	3.1	4.2	13.9	15.1	17.0	22 2.01	+ 0.11	27.36	11 22 29.48	14.84
	Lacaille 4792	7	. .	. .	. .	. .	. .	. .	44.7	47.5	49.1	50.5	52.3	28 48.82	— 40.85	27.36	11 28 35.33	14.74
	* — 34° 49′	8	39.6	41.9	43.5	55.1	56.4	57.8	59.3	0.6	12.2	13.7	16.1	30 57.84	+ 0.15	27.36	11 31 25.35	14.81
	* — 35° 9′	9	35.2	37.7	39.3	50.9	52.0	53.5	54.9	56.1	8.0	9.3	11.9	39 53.53	0.15	27.36	11 40 21.04	15.02
	* — 35° 15′	10	7.0	9.5	11.0	22.7	23.9	25.3	26.9	28.0	39.9	41.2	43.7	41 25.37	0.15	27.36	11 41 52.88	15.06
	* — 35° 9′	†11	8.0	10.3	11.8	23.5	24.7	26.2	27.6	28.8	40.6	42.2	44.6	55 26.21	+ 0.15	27.36	11 55 53.72	15.39
	o Virginis	12	. .	. .	. .	. .	. .	. .	22.5	25.0	26.3	27.6	29.0	58 26.08	— 34.01	27.36	11 58 19.43	14.89
	ε Corvi	13	27.5	29.6	30.9	41.2	42.2	43.5	44.8	45.9	56.2	57.6	59.7	2 43.55	+ 0.13	27.36	12 3 11.04	15.28
	* — 25° 48′	14	53.0	54.6	56.0	57.4	59.9	. .	6.7	9.2	10.5	11.9	13.3	8 33.25	— 0.13	27.36	12 9 0.38	15.44
	* — 25° 50′	15	19.6	21.8	23.2	33.7	34.8	36.3	37.6	38.7	49.4	50.7	52.9	8 36.25	+ 0.13	27.36	12 9 3.74	15.45
	* — 25° 50′	16	. .	. .	. .	21.7	22.8	24.1	25.5	26.5	37.4	38.6	40.7	9 29.66	— 5.38	27.36	12 9 51.64	15.45
	* — 25° 48′	17	50.6	52.7	54.3	4.8	5.7	7.1	8.5	9.8	20.4	21.7	24.0	11 7.24	+ 0.13	27.36	12 11 34.73	15.49
	* — 35° 10′	18	44.2	46.5	47.9	59.6	0.7	2.3	3.8	5.2	16.8	18.1	20.7	21 2.36	0.15	27.36	12 21 29.87	15.98
	* — 35° 2′	19	58.0	0.5	2.2	13.6	14.9	16.4	17.8	19.1	31.0	32.3	35.0	22 16.44	0.15	27.36	12 22 43.95	16.01
	β Corvi	20	34.3	36.5	37.8	48.0	49.2	50.4	51.7	52.8	3.3	4.5	6.7	26 50.47	0.13	27.36	12 27 17.96	15.63
	O. Arg. S. 12286	21	22.6	24.7	26.1	36.6	37.8	39.2	40.4	41.5	52.1	53.5	55.7	29 39.11	+ 0.13	27.36	12 30 6.60	15.77
	Lacaille 5234	22	. .	. .	. .	29.5	30.6	32.3	33.7	35.0	47.2	48.8	51.2	32 38.54	— 6.05	27.36	12 32 59.85	16.34
	Lacaille 5252	23	28.7	31.1	32.7	44.5	45.7	47.3	48.9	50.2	2.4	3.8	6.5	34 47.44	+ 0.15	27.36	12 35 14.95	16.40
	O. Arg. S. 12444	24	9.2	11.5	12.7	23.3	24.4	25.6	26.8	28.0	38.6	40.0	42.3	41 25.67	0.13	27.36	12 41 53.16	15.96
	O. Arg. S. 12460	25	13.3	15.4	16.7	27.5	28.4	29.7	31.0	32.2	42.9	44.2	46.6	42 29.81	0.13	27.36	12 42 57.30	15.97
	* — 25° 7′	26	41.6	43.6	45.0	55.7	56.8	58.1	59.3	0.6	11.1	12.4	14.6	43 58.07	0.13	27.36	12 44 25.56	15.99
	α Canum Venaticorum	27	55.5	58.3	0.0	12.3	13.4	15.0	16.4	18.0	30.3	31.8	34.5	49 15.05	0.13	27.36	12 49 42.54	14.02
	Saturn I	28	48.8	50.7	52.0	. .	. .	. .	. .	. .	15.5	16.7	18.7	57 3.73	0.07	27.36	12 51 31.16	. .
	Saturn II	29	. .	. .	. .	2.9	3.8	5.0	6.1	7.3	. .	. .	. .	51 5.02	0.16	27.36	12 51 32.54	. .
	O. Arg. S. 12615	30	51.5	53.5	54.8	5.6	6.6	7.8	9.2	10.5	20.9	22.2	24.6	56 7.93	0.13	27.36	12 56 35.42	16.18
	θ Virginis	31	15.2	17.1	18.4	28.0	29.0	30.2	31.3	32.4	42.0	43.2	45.2	2 30.18	0.11	27.36	13 2 57.65	15.36
	Polaris, S. P.	32	. .	. .	. .	2.0	24.0	36.0	48.0	5.0	. .	. .	. .	8 35.00	5.57	27.36	. . . .	. .
	ε Pegasi	†33	49.3	51.3	52.4	2.0	3.0	4.2	5.5	6.6	16.4	17.5	19.6	37 4.35	0.11	27.41	. . . .	. .
	Moon II	†34	0.6	2.6	3.9	13.9	14.9	16.0	17.3	18.4	28.3	29.6	31.6	54 16.10	0.11	27.41	21 54 43.62	. .
May 2	*α* Andromedæ	35	38.7	40.9	42.4	53.2	54.3	55.7	56.9	58.0	9.2	10.5	12.8	0 55.69	0.11	26.92	. . . .	13.29
Y.	Polaris	36	22.0	41.0	32.0	. .	35.0	25.5	. .	. .	. .	. .	. .	2 55.10	5 36.34	26.92	. . . .	. .
3	*α* Andromedæ	37	38.7	41.0	42.4	53.2	54.2	55.7	57.0	58.2	9.3	10.6	12.8	0 55.73	0.14	. .	. . . .	13.32
R.	*γ* Pegasi	38	32.6	34.7	36.0	45.7	46.8	48.0	49.3	50.4	0.2	1.5	3.7	5 48.08	+ 0.11	. .	. . . .	13.26
	Polaris	†39	. .	. .	. .	. .	37.0	26.0	11.0	54.0	25.0	13.0	32.0	12 28.29	— 3 56.54	26.78	. . . .	. .
	Venus I	40	17.5	19.0	20.2	21.3	23.6	. .	24.6	26.9	28.3	29.6	31.0	31 54.20	— 0.13	26.78	1 32 20.85	. .
	Venus II	41	39.4	41.5	42.8	52.6	53.5	54.7	56.0	57.0	6.7	7.8	10.1	31 54.74	+ 0.11	26.78	1 32 21.63	. .
	α Arietis	42	48.3	50.4	51.8	1.9	3.1	4.5	5.8	6.9	17.2	18.6	20.8	59 4.48	0.13	26.79	1 59 31.40	— 14.07
4	Sun I	43	5.1	7.1	8.4	18.2	19.5	21.0	22.2	23.3	33.3	34.6	36.5	46 20.84	0.12	26.80	2 46 47.76	. .
	Sun II	†44	17.9	19.9	21.1	31.3	32.3	33.4	34.7	35.8	45.8	47.0	49.3	48 33.50	0.12	26.80	2 49 0.42	. .
	Mercury I	45	8.8	11.1	12.4	22.9	23.9	25.4	26.6	27.6	38.1	39.4	41.7	7 25.26	0.11	26.82	4 7 52.19	+ 0.32
	α Tauri	46	25.3	27.3	28.6	38.7	39.8	41.0	42.2	43.2	53.2	54.7	56.7	27 40.97	0.10	26.83	4 28 7.90	— 14.50
	β Orionis	47	18.6	20.8	21.9	31.5	32.5	33.7	34.9	36.0	45.7	46.9	48.8	7 33.75	0.10	26.84	5 8 0.69	12.04
	β Tauri	48	58.7	1.0	2.6	13.2	14.3	15.6	17.0	18.2	29.3	30.6	33.0	17 15.77	0.11	26.85	5 17 42.73	16.13
	δ Orionis	49	22.4	24.4	25.8	35.0	36.1	37.3	38.4	39.5	49.0	50.2	52.3	24 37.31	+ 0.10	+26.85	5 25 4.26	— 12.94

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
	h.	s.	s.	s.
May 4,	8.5	+ 26.90	+ 0.017	+ 0.160

11. Preceded by a smaller star.
33. Through clouds.
34. Faint.
39. Wind violent. Star very unsteady.
44. Both limbs blurred and vibrating.

		s.
May 3–4,	0h. to 4h. n. =	+ 0.04.
4,	4h. to 6h.	0.00.
	11h. to 14h.	— 0.07.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 4, Y. R.	α Orionis	1	7.4	9.4	10.5	20.2	21.2	22.4	23.6	24.5	34.3	35.6	37.6	47 22.43	+ 0.10	- -	- - -	— 13.86
	* — 35° 9′	2	35.5	38.0	39.4	51.0	52.2	53.6	55.3	56.5	8.4	9.9	12.3	39 53.83	0.17	+26.95	11 40 20.95	14.97
	* — 35° 15′	3	7.4	9.8	11.2	23.1	24.3	25.7	27.2	28.4	40.2	41.5	44.0	41 25.71	0.17	26.95	11 41 52.83	15.01
	* — 35° 14′	4	35.2	37.5	38.9	50.6	52.0	53.4	54.9	56.2	8.0	9.5	12.0	46 53.47	+ 0.17	26.96	11 47 20.60	15.14
	Radcliffe 2769	5	- -	- -	- -	- -	- -	- -	20.2	23.6	25.3	26.9	28.8	50 24.96	— 44.55	26.96	11 50 7.37	- -
	Radcliffe 2771	6	46.8	48.1	49.6	51.3	52.7	5.3	7.3	9.8	- -	- -	- -	49 56.36	— 6.51	26.96	11 50 16.81	15.07
	* — 35° 9′	7	8.3	10.7	12.2	23.9	25.0	26.4	27.9	29.2	41.1	42.4	45.0	55 26.55	+ 0.17	26.96	11 55 53.68	15.34
	o Virginis	8	37.4	39.3	40.6	50.1	51.1	52.4	53.6	54.7	4.2	5.6	7.6	57 52.42	0.09	26.96	11 58 19.47	14.85
	O. Arg. S. 12057	9	12.5	14.6	16.0	26.4	27.5	28.8	30.0	31.2	41.6	42.9	45.2	10 28.79	0.14	26.96	12 10 55.89	15.39
	η Virginis	10	17.6	19.6	20.8	30.3	31.4	32.5	33.6	34.7	44.4	45.7	47.5	12 32.55	0.10	26.96	12 12 59.61	14.99
	Lacaille 5126	11	22.8	25.3	26.7	38.6	39.8	41.5	42.9	44.3	56.1	57.7	0.3	15 41.45	0.18	26.97	12 16 8.60	15.88
	O. Arg. S. 12161	12	51.0	53.0	54.4	4.9	6.1	7.4	8.8	10.2	20.8	21.1	24.4	19 7.46	0.15	26.97	12 19 34.58	15.61
	Lacaille 5191	13	11.1	13.4	15.0	26.2	27.4	28.7	30.2	31.4	42.7	43.9	46.5	24 28.77	+ 0.16	26.97	12 24 55.90	15.89
	Lacaille 5193	14	- -	- -	- -	13.0	14.6	16.7	34.6	37.6	39.0	40.6	42.1	25 29.78	— 30.42	26.97	12 25 26.33	15.90
	* — 31° 44′	15	11.2	13.4	14.7	26.0	27.0	28.5	30.0	31.1	42.6	43.9	46.3	26 28.61	+ 0.16	26.97	12 26 55.74	15.93
	O. Arg. S. 12332	16	50.8	53.0	54.3	5.0	6.3	7.6	8.8	9.9	20.8	21.9	24.3	33 7.52	0.15	26.97	12 33 34.64	15.84
	Saturn I	17	40.4	42.2	43.6	52.9	54.0	55.2	56.5	57.6	- -	- -	- -	49 50.30	+ 5.09	26.97	12 50 22.36	- -
	Saturn II	18	- -	- -	- -	8.3	9.4	11.5	26.7	29.1	30.3	31.7	33.0	50 22.50	— 25.94	26.97	12 50 23.53	- -
	O. Arg. S. 12588	19	42.7	45.0	46.4	57.5	58.6	59.8	1.2	2.6	13.4	14.8	17.3	53 59.94	+ 0.16	26.98	12 54 27.08	16.40
	θ Virginis	20	15.7	17.5	19.0	28.4	29.4	30.5	31.7	32.8	42.5	43.6	45.6	2 30.61	+ 0.11	26.98	13 2 57.70	15.36
	Polaris, S. P.	†21	- -	- -	- -	1.0	27.0	38.0	48.0	2.0	- -	- -	- -	8 35.20	— 3.15	26.98	- - - -	56.73
	* — 29° 57′	22	58.5	0.7	2.2	13.2	14.1	15.5	16.8	18.0	29.1	30.5	33.2	40 15.62	+ 0.16	26.99	13 40 42.77	17.18
	O. Arg. S. 13156	23	- -	- -	- -	49.3	50.3	51.6	53.0	54.3	5.4	6.8	9.1	40 57.48	— 5.56	26.99	13 41 18.91	17.20
	Lacaille 5729	24	17.2	19.7	21.1	32.9	34.0	35.4	36.8	38.0	50.0	51.3	53.9	45 35.48	+ 0.17	26.99	13 46 2.64	17.70
	η Bootis	25	- -	- -	- -	1.0	2.0	4.2	20.5	22.7	24.0	25.6	27.0	48 15.88	— 27.44	26.99	13 48 15.43	14.27
Y.	α Andromedæ	26	38.7	40.9	42.3	53.1	54.3	55.6	56.9	58.1	9.1	10.6	12.8	0 55.67	+ 0.13	26.95	0 1 22.75	13.35
	γ Pegasi	27	32.5	34.6	35.9	45.8	46.8	47.9	49.2	50.3	0.2	1.5	3.5	5 48.02	0.11	26.95	0 6 15.08	13.29
	Polaris	28	- -	- -	- -	57.5	37.0	24.5	12.5	54.0	- -	- -	- -	8 25.10	+ 7.19	26.96	- - - -	57.02
	Venus I	29	52.4	53.9	55.0	56.2	58.6	- -	59.4	2.0	3.1	4.6	5.9	36 29.11	— 0.13	26.96	1 36 55.94	- -
	Venus II	30	- -	16.4	17.6	27.4	28.5	29.7	30.9	31.9	41.6	42.7	- -	36 29.63	+ 0.12	26.96	1 36 56.71	- -
	α Arietis	†31	2.0	3.0	4.4	5.6	6.8	- -	37.2	39.6	41.0	42.4	44.0	59 22.60	— 18.11	26.97	1 59 31.46	14.21
5	Sun I	32	- -	- -	- -	24.4	25.5	27.8	43.5	46.0	47.4	48.7	50.1	50 39.18	— 27.09	26.97	2 50 39.06	- -
	Sun II	33	9.2	11.3	12.6	22.4	23.5	24.7	25.9	27.1	37.2	38.5	40.5	52 24.81	+ 0.11	26.97	2 52 51.89	- -
	β Orionis	34	18.6	20.6	21.9	31.5	32.5	33.7	34.8	35.9	45.7	46.9	49.0	7 33.74	0.10	26.99	5 8 0.83	12.03
	β Tauri	35	58.6	0.8	2.4	12.9	14.2	15.5	16.9	18.0	29.0	30.5	32.7	17 15.59	0.13	27.00	5 17 42.72	16.12
	δ Orionis	36	22.2	24.3	25.5	35.0	36.0	37.2	38.4	39.4	49.1	50.3	52.3	24 37.25	0.10	27.00	5 25 4.35	12.94
	ε Orionis	37	37.5	39.5	40.8	50.2	51.3	52.5	53.7	54.7	4.3	5.5	7.5	28 52.50	0.10	27.00	5 29 19.60	12.85
	O. Arg. S. 10974	38	42.0	44.2	45.7	- -	- -	- -	- -	- -	12.8	14.2	16.5	47 59.23	0.07	27.05	10 48 26.35	13.84
	* — 22° 32′	39	48.3	50.5	51.8	2.0	3.2	4.5	5.7	6.8	17.4	18.7	20.8	52 4.52	0.11	27.05	10 52 31.68	14.10
	* — 33° 9′	40	36.7	39.2	40.5	51.9	53.0	54.5	56.0	57.2	8.8	10.0	12.5	54 54.48	0.12	27.05	10 55 21.65	13.90
	χ Leonis	41	20.0	22.2	23.4	32.9	33.9	35.2	36.3	37.4	47.3	48.3	50.4	57 35.21	+ 0.10	27.05	10 58 2.36	14.74
	O. Arg. S. 11154	42	- -	- -	- -	26.2	27.4	28.7	30.0	31.3	42.0	43.4	45.7	0 34.34	— 5.49	27.05	11 0 55.90	14.14
	Lacaille 4638	43	38.8	41.0	42.4	53.0	54.0	55.4	56.7	57.8	8.5	9.9	12.2	5 55.43	+ 0.11	27.05	11 6 22.59	14.27
	O. Arg. S. 11267	44	35.3	37.6	39.0	50.0	51.2	52.6	53.9	55.0	6.2	7.6	10.0	8 52.58	0.12	27.05	11 7 19.75	14.27
	O. Arg. S. 11318	45	0.1	2.4	3.6	14.3	15.5	16.7	18.0	19.2	30.4	31.6	34.0	13 16.89	0.11	27.05	11 13 44.05	14.39
	Weisse 284	46	6.2	8.2	9.5	19.0	20.0	21.3	22.4	23.5	33.1	34.3	36.3	17 21.25	0.10	27.05	11 17 48.40	14.80
	Lacaille 4758	47	12.5	14.6	16.0	26.7	27.8	29.2	30.6	31.7	42.5	43.9	46.3	22 29.25	+ 0.11	27.05	11 22 56.41	14 57
	* — 29° 30′	48	- -	- -	- -	51.8	53.0	54.3	55.6	56.8	7.8	9.1	11.6	24 0.00	— 5.57	27.05	11 24 21.48	14.59
	Lacaille 4777	49	45.8	47.1	48.6	50.0	51.2	- -	25.7	28.6	30.1	31.8	33.4	26 9.23	20.49	27.05	11 26 15.79	14.61
	* — 26° 5′	50	49.0	- -	52.6	3.3	4.4	5.7	7.0	8.2	18.9	20.2	22.4	32 7.17	— 1.34	+27.05	11 32 32.88	— 14.77

21. Unsteady.
31. Faint.

May 4–5, 0h. to 6h, n. = + 0.03 s.
5, 10h. to 17h. 0.00.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
May 5,	9.1	+ 27.03	+ 0.009	+ 0.100

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 5	O. Arg. N. 12020	1	35.4	41.8	46.6	21.4	24.8	28.7	33.3	37.4	11.4	16.3	23.4	36 29.14	+ 0.36	+27.05	11 36 56.55	— 17.60
Y.	O. Arg. S. 11656	2	47.7	49.9	51.2	1.7	2.7	4.0	5.4	6.6	17.4	18.6	20.9	40 4.19	0.11	27.05	11 40 31.35	14.90
	* — 36° 10′	3	37.9	40.4	41.9	53.7	55.0	56.5	58.0	59.3	11.3	12.7	15.1	43 55.53	0.12	27.05	11 44 22.70	15.07
	* — 35° 13′	4	34.8	37.4	38.8	50.4	51.6	53.0	54.5	55.9	7.8	9.3	11.6	46 53.19	0.12	27.05	11 47 20.36	15.13
	Radcliffe 2768	5	- -	- -	- -	24.3	25.7	27.2	28.7	30.0	- -	- -	- -	49 27.18	0.19	27.05	11 49 54.42	15.06
	Radcliffe 2769	6	- -	- -	- -	37.2	38.5	40.2	41.6	43.0	- -	- -	- -	49 40.10	0.19	27.05	11 50 7.34	15.06
	Radcliffe 2771	7	- -	- -	- -	46.6	47.9	49.5	51.1	52.6	- -	- -	- -	49 49.54	0.19	27.05	11 50 16.78	15.06
	Lacaille 4976	8	46.0	48.5	49.9	1.3	2.5	3.9	5.4	6.6	18.1	19.6	22.0	54 3.98	0.12	27.05	11 54 31.15	15.26
	o Virginis	9	37.1	39.2	40.4	50.0	51.0	52.2	53.5	54.5	4.3	5.5	7.5	57 52.29	+ 0.10	27.05	11 58 19.44	14.84
	Dorpat 1604 (1st *)	10	25.6	27.0	28.2	29.5	31.8	- -	33.1	35.5	36.7	38.0	39.5	2 2.49	— 0.14	27.06	12 2 29.41	15.07
	Dorpat 1604 (2d *)	12	- -	- -	- -	0.7	1.8	2.9	4.2	5.4	- -	- -	- -	2 3.00	+ 0.15	27.06	12 2 30.21	15.07
	Dorpat 1604 (3d *)	11	50.3	52.4	53.6	- -	- -	- -	- -	- -	17.6	18.8	20.8	2 5.58	0.06	27.06	12 2 32.70	15.07
	Lacaille 5063	13	28.2	30.5	32.0	43.5	44.7	46.2	47.5	48.7	0.3	1.7	4.1	5 46.22	0.12	27.06	12 6 13.40	15.53
	* — 25° 50′	14	16.5	18.7	20.0	30.7	31.8	33.1	34.4	35.6	46.4	47.6	49.7	8 33.14	0.11	27.06	12 9 0.31	15.40
	* — 25° 52′	15	7.7	10.0	11.3	21.9	23.0	24.4	25.7	26.8	37.5	38.7	41.1	9 24.37	0.11	27.06	12 9 51.54	15.43
	* — 27° 45′	16	14.2	16.3	17.7	28.6	29.7	31.0	32.4	33.5	44.5	45.8	48.0	12 31.06	0.11	27.06	12 12 58.23	15.52
	Lacaille 5191	17	10.8	13.3	14.7	25.8	26.9	28.4	29.7	30.9	42.5	43.8	46.1	24 28.45	0.12	27.06	12 24 55.63	15.89
	β Corvi	18	34.4	36.6	38.0	48.4	49.4	50.7	51.9	53.1	3.5	4.8	7.0	26 50.71	+ 0.11	27.06	12 27 17.88	15.59
	* — 29° 1′	19	- -	- -	- -	- -	- -	- -	14.6	17.4	18.8	20.4	21.8	38 18.60	— 38.37	27.06	12 38 7.29	16.03
	* — 29° 50′	20	24.0	26.4	27.8	38.7	39.9	41.3	42.6	43.8	55.1	56.4	58.7	42 41.34	+ 0.12	27.06	12 43 8.52	16.17
	Saturn I	21	27.1	29.0	30.3	39.7	40.8	41.9	43.0	44.2	53.9	55.0	57.0	50 41.99	+ 0.10	27.06	12 51 9.15	- -
	Saturn II	22	7.3	8.6	9.9	10.9	13.3	- -	13.4	15.8	17.0	18.3	19.6	50 43.41	— 0.14	27.06	12 51 10.33	- -
	* — 30° 6′	23	42.4	44.7	46.0	57.1	58.3	59.7	0.9	2.2	13.3	14.6	17.0	53 59.65	+ 0.12	27.06	12 54 26.83	16.39
	* — 16° 55′	24	9.9	11.9	13.3	23.4	24.5	25.6	26.7	27.9	38.0	39.3	41.4	56 25.63	0.10	27.06	12 56 52.79	15.79
	O. Arg. S. 12655	25	30.7	33.0	34.4	45.3	46.5	48.0	49.3	50.5	1.5	2.8	5.2	59 47.93	0.12	27.07	13 0 15.12	16.47
	θ Virginis	26	15.4	17.3	18.6	28.1	29.1	30.3	31.5	32.6	42.3	43.4	45.5	2 30.37	+ 0.10	27.07	13 2 57.54	15.35
	Polaris, S. P.	27	- -	- -	- -	8.0	27.5	39.0	51.0	8.0	- -	- -	- -	8 38.70	— 5.98	27.07	- - - -	- -
	O. Arg. S. 12825	28	- -	- -	- -	35.3	36.4	37.7	38.9	40.0	50.8	52.0	54.2	14 43.16	5.36	27.07	13 15 4.87	16.44
	Lalande 24816	29	- -	- -	- -	22.1	23.2	24.6	25.9	27.1	37.6	38.8	41.1	16 30.05	— 5.33	27.07	13 16 51.79	16.43
	* — 34° 54′	30	36.3	38.7	40.3	51.8	52.9	54.4	55.9	57.4	8.9	10.3	12.7	18 54.51	+ 0.12	27.07	13 19 21.70	17.20
	* — 34° 57′	31	30.6	33.2	34.7	46.5	47.6	48.8	50.3	51.6	3.5	4.9	7.4	19 49.01	+ 0.12	27.07	13 20 16.20	17.23
	* — 34° 51′	32	- -	- -	- -	- -	- -	- -	51.8	54.7	56.3	57.9	59.5	21 56.04	— 40.89	27.07	13 21 42.22	17.25
	O. Arg. S. 12920	33	- -	- -	- -	42.8	44.2	45.6	46.9	48.2	- -	- -	- -	23 45.54	+ 0.18	27.07	13 24 12.79	16.96
	* — 31° 40′	34	22.6	25.0	26.5	37.5	38.8	40.2	- -	42.8	54.0	55.4	57.9	27 40.07	0.25	27.07	13 28 7.39	17.11
	* — 26° 33′	35	29.1	31.3	32.8	43.4	44.5	45.9	47.2	48.4	59.1	0.4	2.6	30 45.88	0.11	27.07	13 31 13.06	16.78
	* — 26° 27′	36	37.1	39.5	40.8	51.6	52.7	53.9	55.3	56.4	- -	- -	- -	31 48.41	5.68	27.07	13 32 21.16	16.78
	* — 37° 40′	37	21.0	23.4	25.2	37.0	38.3	39.6	41.2	42.6	54.9	56.3	58.9	34 39.85	0.13	27.07	13 35 7.05	17.78
	* — 24° 48′	38	31.6	33.6	35.1	45.6	46.7	48.0	49.3	50.4	1.0	2.4	4.7	36 48.04	0.11	27.07	13 37 15.22	16.74
	O. Arg. S. 13149	39	- -	- -	- -	12.7	13.8	15.2	16.6	17.7	- -	- -	- -	40 15.20	0.17	27.07	13 40 42.44	17.19
	O. Arg. S. 13156	40	34.0	36.4	37.9	48.8	49.9	51.4	52.7	53.9	5.1	6.5	8.7	40 51.39	+ 0.12	27.07	13 41 18.58	17.20
	Lacaille 5729	41	- -	- -	- -	32.5	33.5	35.0	36.6	37.8	49.5	50.9	53.4	45 41.15	— 5.90	27.07	13 46 2.32	17.70
	η Bootis	42	32.3	34.5	35.9	45.9	46.9	48.2	49.4	50.5	0.7	2.0	4.2	47 48.23	+ 0.11	27.07	13 48 15.41	14.27
	Radcliffe 3117	43	- -	- -	- -	57.0	2.6	9.6	16.0	21.4	- -	- -	- -	50 9.32	0.83	27.07	13 50 37.22	3.37
	(* 117) W.	44	11.7	15.1	17.4	34.1	36.0	37.8	40.3	42.1	59.3	1.5	5.1	16 38.22	0.18	27.09	15 17 5.49	9.20
	O. Arg. S. 14624	45	35.5	37.7	38.9	49.3	50.3	51.7	52.9	54.0	4.4	5.6	7.8	23 51.65	+ 0.11	27.09	15 24 18.85	17.47
	Jupiter I	46	5.0	6.6	7.8	9.0	11 4	- -	14.4	17.0	18.2	19.6	20.9	25 42.99	— 0.15	27.09	15 26 9.93	- -
	Jupiter II	47	30.4	32.3	33.5	43.6	44.7	45.9	47.1	48.3	58.3	59.6	1.7	25 45.95	+ 0.10	27.09	15 26 13.14	- -
	O. Arg. S. 14710	48	- -	- -	- -	49.8	51.2	53.5	10.5	13.2	14.7	16.2	17.7	30 5.85	— 29.29	27.09	15 30 3.65	18.25
	Lacaille 6741	49	- -	- -	- -	- -	- -	- -	22.0	25.4	26.9	28.6	30.4	32 26.66	— 43.51	27.09	15 32 10.24	19.96
	α Serpentis	50	55.0	57.2	58.3	8.0	8.9	10.2	11.5	12.4	22.0	23.1	25.2	37 10.16	+ 0.10	+27.09	15 37 37.35	— 14.80

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
h.	s.	s.	s.
May 5, 9.1	+ 27.03	+ 0.009	+ 0,100

May 5 . . . . n. = — 0.02 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 5	O. Arg. S. 14904	1	17.5	19.6	21.0	31.2	32.2	33.5	34.7	35.8	46.0	47.2	49.3	40 33.45	+ 0.11	+27.09	15 41 0.65	— 17.27
Y.	* — 21° 35′	2	43.2	45.4	46.6	56.8	57.8	59.2	0.4	1.6	11.9	13.2	15.4	44 59.23	+ 0.11	27.09	15 45 26.43	17.58
	Thetis	†3	36.7	37.7	38.8	39.9	41.1	. .	9.6	12.0	13.2	14.5	15.8	47 55.93	— 16.96	27.09	15 48 6.06	. .
	δ Scorpii	4	38.0	40.1	41.4	51.6	52.7	54.0	55.4	56.5	6.8	8.1	10.4	51 54.09	+ 0.11	27.09	15 52 21.29	17.69
	O. Arg. S. 15388	5	. .	. .	. .	10.0	11.5	13.5	31.3	33.9	35.4	36.8	38.5	5 26.36	— 29.88	27.09	16 5 23.57	18.75
	δ Ophiuchi	6	. .	. .	. .	1.2	2.3	4.2	19.4	22.0	23.1	24.3	25.7	7 15.28	— 25.97	27.09	16 7 16.40	15.67
	* — 30° 7′	7	40.7	43.0	44.5	55.5	56.7	58.0	59.4	0.6	11.9	13.1	15.4	9 58.07	+ 0.12	27.09	16 10 25.28	18.82
	γ Pegasi	8	32.5	34.4	35.7	45.6	46.7	47.8	48.9	50.0	0.2	1.3	3.5	5 47.87	0.10	27.10	0 6 15.07	13.29
R.	Polaris	†9	. .	. .	. .	58.5	39.0	29.0	14.0	58.0	. .	. .	. .	8 27.70	5.17	27.02	. . . .	57.65
	Venus I	10	49.3	51.2	52.7	2.2	3.2	4.4	5.5	6.7	16.3	17.6	19.6	41 4.43	+ 0.10	27.03	1 41 31.56	. .
	Venus II	11	28.7	30.1	31.3	32.5	34.9	. .	35.9	38.2	39.5	40.8	42.0	41 5.39	— 0.14	27.03	1 41 32.28	. .
	α Arietis	12	48.1	50.3	51.6	2.0	3.0	4.3	5.6	6.7	17.2	18.5	20.7	59 4.36	+ 0.10	27.03	1 59 31.49	— 14.23
6	Sun I	13	48.2	50.0	51.4	1.6	2.5	3.8	5.1	6.1	16.0	17.2	19.6	54 3.77	0.10	27.04	2 54 30.91	. .
	Sun II	14	1.0	3.1	4.5	14.5	15.4	16.7	18.0	19.1	29.1	30.3	32.6	56 16.75	0.10	27.04	2 56 43.89	. .
	Mercury I	†15	47.3	49.3	50.9	0.9	2.2	3.5	4.8	6.0	16.4	17.7	19.8	12 3.53	0.10	27.05	4 12 30.68	+ 0.34
	α Tauri	†16	25.3	27.3	28.4	38.4	39.4	40.6	41.9	43.0	53.1	54.4	56.5	27 40.75	+ 0.10	27.06	4 28 7.91	— 14.50
	β Orionis	17	. .	. .	. .	31.2	32.3	33.5	34.7	35.8	45.5	46.7	48.9	7 38.58	— 4.91	27.06	5 8 0.73	12.03
Y.	δ Orionis	18	22.1	24.0	25.3	34.8	35.8	37.0	38.2	39.3	48.9	50.0	52.1	24 37.05	+ 0.10	27.13	5 25 4.28	12.93
R.	ε Orionis	19	37.5	39.4	40.7	50.1	51.1	52.3	53.5	54.6	4.2	5.3	7.4	28 52.37	0.10	27.07	5 29 19.54	12.84
	α Orionis	20	7.0	9.0	10.5	20.1	21.0	22.3	23.4	24.5	34.4	35.5	37.5	47 22.29	0.10	27.07	5 47 49.46	13.84
	γ Geminorum	21	9.6	11.6	12.9	22.9	23.9	25.2	26.4	27.5	37.5	38.8	40.8	29 25.19	0.10	27.13	6 29 52.42	14.97
Y.	α Canis Majoris	22	27.2	29.3	30.6	40.5	41.5	42.8	43.9	45.2	55.2	56.4	58.5	38 42.83	0.11	27.13	6 38 10.07	11.28
	a^1 Geminorum	23	11.2	13.4	14.8	26.0	27.3	28.7	30.0	31.2	42.7	44.2	46.7	25 28.75	+ 0.11	27.14	7 25 56.00	16.87
	a^2 Geminorum	24	46.6	48.3	49.8	51.1	53.9	. .	4.9	7.7	9.2	10.7	12.3	25 29.45	— 0.17	27.14	7 25 56.42	16.82
	α Canis Minoris	25	30.0	31.9	33.3	42.7	43.7	45.0	46.1	47.2	56.8	58.0	0.1	31 44.98	+ 0.10	27.14	7 32 12.22	13.83
	β Geminorum	26	16.6	18.8	20.2	31.0	32.2	33.5	34.8	36.0	47.0	48.3	50.7	36 33.55	+ 0.10	27.14	7 37 0.79	16.19
R.	Saturn I	27	53.0	54.4	55.6	56.8	59.0	. .	59.1	1.5	3.0	4.3	5.5	49 29.22	— 0.14	27.14	12 49 56.22	. .
	Saturn II	28	15.3	17.2	18.6	28.0	29.0	30.2	31.5	32.5	42.1	43.2	45.3	49 30.26	+ 0.10	27.14	12 49 57.50	. .
	θ Virginis	29	15.4	17.3	18.4	28.1	29.1	30.3	31.4	32.5	42.1	43.3	45.5	2 30.31	0.10	27.14	13 2 57.55	15.35
	Polaris, S. P.	†30	. .	. .	. .	. .	28.0	38.5	51.0	8.0	. .	. .	. .	8 16.37	16.91	27.14	. . . .	57.97
	α Virginis	31	22.5	24.6	25.8	35.5	36.5	37.7	38.9	40.0	49.8	51.0	53.1	17 37.76	+ 0.11	27.14	13 17 5.01	15.69
	Jupiter I	32	34.4	35.9	37.2	38.4	40.9	. .	43.7	45.9	47.2	48.7	50.1	25 12.24	— 0.14	27.16	15 25 39.26	. .
	Jupiter II	33	59.6	1.7	3.0	12.9	14.1	15.4	16.5	17.6	27.6	28.8	31.3	25 15.32	+ 0.11	27.16	15 25 42.59	. .
	α Cor. Borealis	34	14.5	16.8	18.2	28.9	30.0	31.4	32.6	33.8	44.6	45.9	48.4	28 31.37	0.10	27.17	15 28 58.64	12.99
	O. Arg. S. 14839	35	3.3	5.4	6.7	17.0	18.1	19.4	20.6	21.9	32.2	33.5	35.6	37 19.43	0.12	27.17	15 37 46.72	17.65
	ε Serpentis	36	23.2	25.2	26.4	35.9	36.9	38.2	39.3	40.3	49.9	51.2	53.2	43 38.15	+ 0.10	27.17	15 44 5.42	14.98
Y.	Polaris	†37	. .	. .	. .	58.0	38.5	27.0	14.5	57.0	27.0	12.0	36.5	4 48.81	— 3 15.66	27.32	. . . .	58.28
7	Sun II	38	53.2	55.3	56.8	6.6	7.6	8.9	10.2	11.3	21.4	22.6	24.6	0 8.95	+ 0.11	27.35	3 0 36.41	— 66.54
	Mercury I	†39	. .	. .	. .	48.4	49.5	50.8	52.0	53.3	. .	. .	. .	13 50.80	+ 0.17	27.42	4 14 18.39	+ 0.35
	α Tauri	†40	38.0	39.2	40.3	41.4	42.7	. .	11.9	14.4	15.6	17.0	18.3	27 57.88	— 17.39	27.43	4 28 7.92	— 14.50
	β Orionis	†41	. .	. .	. .	45.2	46.3	48.0	3.6	6.1	7.3	8.7	9.8	7 59.38	— 26.20	27.45	5 8 0.63	12.02
	α Orionis	42	6.8	9.0	10.2	19.8	20.7	21.9	23.0	24.0	33.8	35.0	37.0	47 21.93	+ 0.10	27.47	5 47 49.50	13.84
	η Virginis	43	16.8	19.0	20.1	29.6	30.6	31.8	33.0	34.0	43.7	44.9	47.0	12 31.86	0.10	27.68	12 12 59.64	14.98
	Dorpat 1636 (1st *)	44	56.5	58.5	59.7	9.4	10.4	11.6	12.7	13.8	23.5	24.6	26.6	15 11.57	+ 0.10	27.68	12 15 39.35	14.92
	Dorpat 1636 (2d *)	45	36.0	37.3	38.5	39.8	42.0	. .	42.3	44.9	46.0	47.3	48.6	15 12.27	— 0.14	27.68	12 15 39.81	14.92
	κ Draconis	46	30.2	36.4	40.0	8.5	11.5	15.1	18.4	21.8	50.7	54.3	0.3	27 15.20	+ 0.49	27.69	12 27 43.08	13.72
	Weisse (2) 636	47	. .	. .	. .	. .	. .	. .	34.3	37.2	38.8	40.3	42.0	30 38.52	— 40.40	27.69	12 30 25.81	14.45
21	Cassiopeæ, S. P.	48	10.5	3.4	59.2	24.1	20.4	16.0	11.7	7.4	32.6	27.8	20.8	36 15.81	— 0.23	27.70	12 36 43.28	15.36
	B. A. C. 4301	49	24.8	26.9	28.0	37.9	38.9	40.2	41.4	42.5	52.5	53.8	55.9	41 40.25	+ 0.09	27.70	12 42 8.04	— 14.74
	Saturn I	50	1.0	3.0	4.3	13.7	14.8	15.9	17.0	18.3	27.9	29.0	30.9	49 15.98	+ 0.10	+27.70	12 49 43.78	. .

3. Faint.
9. Faint.
15. Faint.
16. Unsteady.
30. Very faint. Invisible on last wires.
37. Hazy.
39. Faint and hazy.
40–41. Unsteady.

		s.
May 6,	n. =	— 0.02.
6–7, 1h. to 6h.		+ 0.02.
7, 12h. to 16h.		— 0.04.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
May 6,	5.9	+ 27.13	+ 0.005	+ 0.100
6,	14.4	27.16	0.015	. .
7,	11.2	+ 27.65	+ 0.033	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 7	Saturn II	1	41.3	42.6	43.7	45.0	47.3	. .	47.5	49.8	51.0	52.3	53.7	49 17.42	— 0.14	+27.70	12 49 44.98	. .
Y.	Weisse 926	2	54.1	56.0	57.3	6.8	7.7	9.0	10.1	11.2	20.9	22.0	24.1	54 9.02	+ 0.10	27.71	12 54 36.83	— 15.08
	O. Arg. S. 12629	3	9.2	11.2	12.5	22.6	23.6	24.8	26.0	27.1	37.3	38.4	. .	57 23.27	1.69	27.71	12 57 52.67	15.80
	θ Virginis	4	14.7	16.8	18.0	27.6	28.5	29.7	30.9	31.9	41.7	42.8	45.0	2 29.78	+ 0.10	27.71	13 2 57.59	15.34
	Polaris, S. P.	5	. .	. .	. .	6.0	26.0	38.0	50.0	7.5	. .	. .	. .	8 37.50	— 4.36	27.71	. . . .	58.58
	Weisse 235	6	. .	. .	. .	. .	. .	. .	14.3	16.8	18.0	19.4	20.7	15 17.84	— 33.63	27.72	13 15 11.93	15.38
	Weisse 304	7	1.7	3.8	5.0	14.5	15.5	16.7	17.9	19.1	28.7	29.8	31.8	19 16.77	+ 0.10	27.72	13 19 44.59	15.48
	Weisse 413	8	48.2	50.1	51.4	0.9	1.9	3.1	4.4	5.4	15.1	16.4	18.3	25 3.20	0.10	27.72	13 25 33.02	14.93
	ζ Virginis	9	6.0	8.1	9.4	18.8	19.8	21.0	22.3	23.3	32.9	34.1	36.2	27 21.08	0.10	27.73	13 27 48.91	15.17
	* + 77° 0′	10	36.9	45.4	51.0	33.2	38.3	43.0	48.3	52.9	35.9	41.1	50.2	31 43.29	0.27	27.73	13 32 11.29	7.25
	Weisse (2) 854	11	25.2	27.5	29.0	40.6	41.8	43.0	44.5	45.8	57.5	59.0	1.3	40 43.20	0.09	27.73	13 41 11.02	13.52
	Weisse (2) 910	12	35.0	37.4	38.9	50.4	51.6	53.0	54.6	55.9	7.4	8.9	11.3	42 53.13	0.09	27.73	13 43 20.95	13.46
	Weisse (2) 978	13	. .	. .	. .	21.2	22.2	23.5	24.8	25.9	. .	. .	. .	45 23.52	0.14	27.73	13 45 51.39	14.03
	Weisse (2) 994	14	47.4	49.6	50.9	1.3	2.5	3.8	5.0	6.2	16.7	18.0	20.4	46 3.80	+ 0.09	27.73	13 46 31.62	14.03
	Weisse (2) 1077	15	58.0	0.2	1.6	27.7	29.0	31.1	48.0	50.6	51.9	53.3	54.8	49 31.47	— 16.84	27.74	13 49 42.37	13.94
	* + 76° 54′	16	. .	. .	. .	18.1	22.5	27.8	33.2	37.6	. .	. .	. .	53 27.84	+ 0.52	27.74	13 53 56.10	5.36
	κ Virginis	17	58.8	0.9	2.0	11.8	12.7	14.0	15.1	16.2	25.9	27.2	29.3	5 13.99	+ 0.11	27.75	14 5 41.85	15.96
	Weisse 174	18	. .	. .	. .	24.3	25.3	26.4	27.6	28.7	38.4	39.5	41.6	10 31.48	— 4.87	27.75	14 10 54.36	15.64
	Weisse 209	19	54.4	56.4	57.7	7.0	8.1	9.3	10.5	11.6	21.3	22.4	24.5	12 9.38	+ 0.10	27.75	14 12 37.23	15.65
	β Libræ	20	1.8	3.5	4.9	29.0	30.0	32.0	47.4	49.9	51.0	52.3	53.8	9 32.33	— 15.39	27.78	15 9 44.72	16.12
	ϕ^2 Lupi	21	. .	. .	. .	. .	. .	. .	41.8	45.0	46.7	48.2	49.9	14 46.32	— 41.62	27.78	15 14 32.48	19.32
	O. Arg. N. 15370	22	38.9	42.0	44.0	58.9	0.7	2.6	4.6	6.4	21.4	23.4	26.5	21 2.67	+ 0.11	27.79	15 21 30.57	10.02
	Jupiter I	23	25.2	27.2	28.6	38.7	39.7	41.0	42.2	43.2	53.4	54.5	56.7	24 40.95	+ 0.12	27.79	15 25 8.86	. .
	Jupiter II	24	6.4	7.8	9.3	10.3	12.8	. .	15.9	18.2	19.6	20.9	22.3	24 44.35	— 0.13	27.79	15 25 12.01	. .
	Radcliffe 3415	25	54.6	56.4	57.9	59.4	2.7	. .	21.4	24.4	26.1	27.9	29.5	30 42.03	— 0.21	27.80	15 31 9.62	11.47
	Radcliffe 3416	26	27.8	30.3	32.2	44.5	45.8	47.3	49.0	50.2	2.8	4.5	7.0	30 47.40	+ 0.10	27.80	15 31 15.30	11.47
	B. A. C. 5281	†27	3.4	. .	6.8	17.1	18.0	19.3	20.6	21.8	32.0	. .	35.5	49 19.39	0.12	27.80	15 49 47.31	17.51
	δ Scorpii	28	37.2	39.3	40.7	50.9	52.0	53.3	54.6	55.8	6.2	7.5	9.7	51 53.38	0.12	27.80	15 52 21.30	17.72
	β Scorpii (1st *)	29	51.8	53.9	55.1	5.3	6.3	7.6	8.8	9.9	20.2	21.4	23.6	57 7.63	+ 0.12	27.81	15 57 35.56	17.42
	B. A. C. 5330	30	29.8	31.4	32.6	33.8	36.2	. .	40.0	42.5	43.8	45.2	46.6	57 8.19	— 0.13	27.81	15 57 35.87	17.43
9, R.	Sun I	31	25.6	27.6	29.0	39.0	40.0	41.3	42.6	43.8	53.9	55.0	57.0	5 41.35	. .	. .	. . . .	. .
Y.	Sun II	32	39.2	41.1	42.6	52.4	53.6	54.8	55.9	57.0	7.1	8.5	10.7	7 54.81	. .	. .	. . . .	. .
14	ρ Leonis	33	53.0	55.0	56.3	5.9	6.9	8.2	9.4	10.5	20.1	21.5	23.5	25 8.21	+ 0.08	. .	. . . .	14.75
	Moon I	†34	50.2	51.5	52.7	53.9	56.3	. .	57.6	0.0	1.3	2.6	4.0	29 27.01	— 0.15	32.72	10 29 59.58	. .
16	α Tauri	35	17.4	19.4	20.6	30.5	31.5	32.8	34.0	35.0	45.2	46.4	48.5	27 32.85	+ 0.06	35.04	. . . .	14.51
R.	O. Arg. S. 11796	36	22.0	24.4	25.6	36.3	37.4	38.8	40.1	41.3	51.9	53.4	55.7	50 38.81	0.20	35.40	11 51 14.41	14.99
	O. Arg. S. 11831	37	14.5	16.6	18.1	28.7	29.8	31.0	32.3	33.5	44.4	45.6	47.8	53 31.12	0.19	35.40	11 54 6.71	15.03
	O. Arg. S. 11848	38	35.3	37.5	38.8	49.3	50.5	51.8	53.0	54.2	4.9	6.3	8.5	54 51.83	0.19	35.41	11 55 27.43	15.08
	o Virginis	39	28.7	30.8	32.0	41.7	42.8	43.9	45.1	46.1	56.0	57.2	59.0	57 43.94	+ 0.07	35.41	11 58 19.42	14.75
	O. Arg. S. 11908	40	. .	. .	. .	43.3	44.7	47.0	3.2	5.8	7.3	8.6	10.2	59 58.76	— 28.08	35.41	12 0 6.09	15.10
	Moon I	41	20.1	22.0	23.6	33.1	34.3	35.4	36.6	37.7	47.5	48.7	50.8	2 35.44	+ 0.11	35.41	12 3 10.96	. .
	O. Arg. S. 12057	42	3.7	5.8	7.2	17.7	18.8	20.2	21.4	22.6	33.0	34.3	36.6	10 20.12	0.18	35.42	12 10 55.72	15.29
	η Virginis	43	9.3	11.1	12.3	21.7	22.8	24.0	25.2	26.3	35.8	36.9	39.3	12 24.06	+ 0.10	35.42	12 12 59.58	14.91
	* — 32° 48′	44	39.8	42.0	43.6	54.9	56.3	57.7	59.0	0.2	11.7	13.1	15.5	14 57.62	— 0.23	35.42	12 15 32.81	15.62
	* — 28° 0′	45	29.4	31.6	33.0	43.7	44.8	46.2	47.6	48.7	59.7	0.9	3.3	19 46.26	+ 0.20	35.43	12 20 21.89	15.58
	η Virginis	46	57.8	59.8	1.1	10.8	11.8	13.0	14.2	15.2	25.0	26.1	28.1	26 12.99	0.13	35.43	12 26 48.55	15.17
	O. Arg. S. 12269	47	6.3	8.3	9.8	20.2	21.4	22.8	24.0	25.1	35.9	37.0	39.4	28 22.75	0.19	35.43	12 28 58.37	15.65
	O. Arg. S. 12286	48	14.4	16.6	17.9	28.5	29.6	30.9	32.0	33.3	44.0	45.3	47.6	29 30.92	+ 0.19	35.43	12 30 6.54	15.67
	χ Virginis	49	. .	. .	. .	53.0	54.1	56.1	11.5	13.9	15.0	16.5	17.7	32 7.22	— 26.11	+35.44	12 32 16.55	— 15.18

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 14, 10.4	+ 32.72	. .	+ 0.100
16, 12.0	+ 35.41	+ 0.050	+ 0.100

34. Through clouds.

May 14, . . n. = — 0.14 s.
16, . . — 0.17.

27. Thetis too faint for observation.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 16	O. Arg. S. 12389	1	11.8	14.1	15.5	26.1	27.4	28.7	30.1	31.3	42.0	43.4	45.7	37 28.74	+ 0.20	+35.44	12 38 4.38	— 15.92
R.	Lacaille 5284	2	8.7	11.0	12.4	23.4	24.6	26.0	27.5	28.7	40.0	41.3	43.7	40 26.13	+ 0.22	35.44	12 41 1.79	16.14
	* — 37° 11′	3	. .	. .	. .	35.0	36.2	37.8	39.3	40.6	52.7	54.3	56.6	42 44.06	— 5.96	35.45	12 43 13.55	16.48
	Saturn I	4	12.3	14.1	15.6	25.0	26.0	27.2	28.4	29.4	39.0	40.3	42.1	47 27.22	+ 0.11	35.45	12 48 2.78	. .
	Saturn II	5	52.5	53.8	55.0	56.2	59.5	. .	58.6	0.9	2.4	3.6	5.0	47 28.75	— 0.13	35.45	12 48 4.07	. .
	O. Arg. S. 12573	6	7.3	9.5	10.9	21.1	22.2	23.5	24.8	25.9	36.5	37.6	39.8	52 23.55	+ 0.18	35.45	12 52 59.18	15.96
	* — 37° 4′	7	8.3	10.7	12.3	24.1	25.5	27.0	28.3	29.6	41.9	43.1	45.9	56 26.97	+ 0.26	35.46	12 57 2.69	16.80
	O. Arg. S. 12655	8	. .	. .	. .	37.0	38.1	39.6	41.0	42.0	53.3	54.5	57.0	59 45.32	— 5.50	35.46	13 0 15.28	16.43
	Comp. θ Virginis	9	45.9	47.3	48.5	49.7	51.8	. .	52.2	54.7	55.8	57.2	58.5	2 22.16	— 0.12	35.46	13 2 57.50	15.32
	θ Virginis	10	7.1	8.9	10.3	19.7	20.8	22.1	23.2	24.3	33.9	35.0	37.3	2 22.05	+ 0.12	35.46	13 2 57.63	15.32
	Polaris, S. P.	†11	. .	. .	. .	57.0	18.0	30.0	41.5	0.0	. .	. .	. .	8 29.30	0.90	35.47	. . . .	63.45
	B. A. C. 4912	12	30.6	32.9	34.2	45.7	46.7	48.3	49.5	50.8	2.2	3.6	6.0	45 48.23	0.23	35.55	14 46 24.01	18.52
	O. Arg. S. 14080	13	10.3	12.6	13.8	24.6	25.5	27.0	28.2	29.4	40.0	41.3	43.4	48 26.92	0.19	35.55	14 49 2.66	17.74
	Ψ Bootis	14	47.5	49.7	51.2	1.8	2.9	4.3	5.6	6.9	17.8	19.0	21.3	58 4.36	0.02	35.56	14 58 39.94	13.18
	O. Arg. S. 14349	15	54.5	56.6	57.9	8.6	9.6	11.0	12.1	13.4	24.0	25.4	27.6	4 10.97	0.19	35.56	15 4 46.72	17.84
	O. Arg. S. 14436	16	42.6	44.8	46.2	56.3	57.4	58.6	59.7	0.9	11.4	12.5	14.7	9 58.65	0.17	35.57	15 10 34.39	17.36
	O. Arg. S. 14459	17	11.6	13.6	14.9	25.3	26.3	27.4	28.7	29.8	40.0	41.2	43.6	11 27.49	0.17	35.57	15 12 3.23	17.37
	O. Arg. S. 14513	18	27.6	29.8	31.0	41.3	42.5	43.7	45.0	46.1	56.6	57.9	0.0	15 43.77	0.18	35.57	15 16 19.52	17.60
	Jupiter I	19	39.4	41.3	42.7	52.6	53.6	54.9	56.0	57.0	7.2	8.4	10.6	19 54.88	+ 0.16	35.58	15 20 30.62	. .
	Jupiter II	20	20.5	21.8	23.1	24.4	26.7	. .	29.8	32.3	33.4	34.8	36.1	19 58.29	— 0.09	35.58	15 20 33.78	. .
	O. Arg. S. 14636	21	12.9	14.9	16.2	26.8	27.9	29.3	30.6	31.7	42.4	43.6	45.9	24 29.29	+ 0.19	35.58	15 25 5.06	18.03
	α Cor. Borealis	22	6.4	8.6	10.0	20.6	21.8	23.0	24.4	25.7	36.3	37.7	40.3	28 23.16	+ 0.03	35.58	15 28 58.77	13.06
	Lacaille 6471	23	. .	. .	. .	31.8	33.0	34.9	36.3	37.6	50.0	51.5	54.3	31 41.18	— 6.16	35.59	15 32 10.61	20.16
	Thetis	†24	30.7	32.5	33.8	. .	. .	. .	. .	. .	57.9	58.9	1.2	37 45.83	+ 0.09	35.59	15 38 21.51	. .
Y. 17	B. A. C. 4070	25	25.5	56.0	15.5	. .	. .	. .	. .	. .	25.0	44.0	15.5	57 20.25	— 1.71	36.61	11 57 55.15	18.70
	o Virginis	26	27.6	29.6	30.8	40.5	41.5	42.7	43.9	44.9	54.7	55.9	58.0	57 42.74	+ 0.07	36.61	11 58 19.42	14.74
	B. A. C. 4150	27	17.0	56.0	23.0	35.5	56.0	21.0	45.5	8.0	23.0	48.5	30.0	12 22.14	— 1.42	36.62	12 12 57.34	13.68
	χ Virginis	28	24.7	26.7	28.0	37.5	38.6	39.7	41.0	41.9	51.7	52.8	55.0	31 39.78	+ 0.12	36.64	12 32 16.54	15.18
	Saturn I	†29	40.5	42.0	43.2	44.4	46.6	. .	46.8	49.2	50.5	51.7	53.0	47 16.79	— 0.13	36.65	12 47 53.31	. .
	Saturn II	30	2.5	4.7	5.9	15.3	16.5	17.7	18.8	20.0	29.6	30.7	32.6	47 17.66	+ 0.11	36.65	12 47 54.42	. .
	Moon I	31	52.0	54.3	55.5	5.2	6.3	7.5	8.7	9.8	19.8	21.1	23.2	51 7.58	0.13	36.65	12 51 44.36	. .
	50 Virginis	32	49.3	51.5	52.7	2.4	3.4	4.6	5.7	6.9	16.7	17.8	19.8	2 4.62	0.13	36.66	13 2 41.41	15.50
	Polaris, S. P.	33	. .	. .	. .	58.0	16.0	29.0	42.0	59.0	.	. .	. .	8 28.80	0.90	36.66	. . . .	64.10
	α Virginis	34	12.9	14.8	16.2	26.0	26.9	28.2	29.4	30.4	40.3	41.2	43.3	17 28.15	0.13	36.67	13 18 4.95	14.65
	O. Arg. S. 13663	35	51.7	53.9	55.2	5.6	6.8	8.0	9.4	10.6	21.4	22.6	24.9	21 8.19	0.19	36.72	14 21 45.10	17.39
	ρ Bootis	36	6.8	9.1	10.5	21.5	22.7	24.2	25.4	26.6	38.0	39.3	41.5	25 24.15	0.02	36.72	14 26 0.89	13.17
	ε Bootis	37	12.0	14.4	15.7	26.5	27.6	28.9	30.1	31.2	42.3	43.6	45.7	38 28.91	0.02	36.73	14 39 5.66	13.35
	Jupiter I	38	7.6	9.5	10.8	20.9	22.0	23.2	24.4	25.5	35.5	36.7	38.9	19 23.18	+ 0.16	36.76	15 20 0.10	. .
	Jupiter II	39	48.6	50.0	51.5	52.7	55.2	. .	57.9	0.6	1.8	3.1	4.5	19 56.59	— 0.09	36.76	15 20 33.26	. .
	α Coronæ Borealis	†40	5.2	7.2	8.7	19.5	20.5	22.0	23.4	24.5	35.5	36.6	38.9	28 22.00	+ 0.03	36.76	15 28 58.79	13.07
R. 18	Sun I	41	44.0	45.9	47.3	57.6	58.6	59.8	1.0	2.1	12.5	13.7	15.7	40 59.84	0.07	37.12	3 41 37.03	. .
	Sun II	42	58.7	0.7	2.2	12.4	13.4	14.7	15.9	17.0	27.3	28.6	30.8	43 14.70	0.07	37.12	3 43 51.89	. .
	β Orionis	43	8.3	10.2	11.3	21.0	22.0	23.3	24.5	25.6	35.3	36.5	38.5	8 23.32	0.12	37.18	. . . .	12.00
	β Tauri	44	48.5	50.8	52.3	3.0	4.1	5.5	6.9	8.0	18.9	20.3	22.4	17 5.52	+ 0.06	37.18	. . . .	. .
Y. 19	Polaris, S. P.	†45	44.0	49.0	1.0	13.0	36.0	. .	. .	. .	. .	. .	. .	30 52.60	—22 23.53	38.64	. . . .	65.54
	Lacaille 5668	46	20.2	21.3	22.9	24.2	25.5	. .	58.6	1.4	2.8	4.5	6.0	37 42.74	— 19.69	38.65	13 38 1.70	17.33
	Lacaille 5688	47	41.4	43.8	45.3	56.8	57.9	59.3	0.7	2.0	13.7	15.1	17.5	40 59.41	+ 0.19	38.65	13 41 38.25	17.53
	Lacaille 5708	48	6.1	8.5	10.1	21.4	22.5	23.8	25.2	26.5	38.0	39.2	41.7	43 23.91	0.19	38.66	13 44 2.76	17.44
	η Bootis	49	20.9	23.0	24.2	34.3	35.3	36.4	37.7	38.9	49.1	50.4	52.6	47 36.62	+ 0.07	38.66	13 48 15.35	14.24
	Lacaille 5773	50	41.1	42.2	43.5	44.8	46.0	. .	17.0	19.7	21.0	22.5	23.9	50 2.17	— 18.43	+38.66	13 50 22.40	— 16.96

11. Sky cloudy.
24. Very faint.
29. Through clouds.
40. Unsteady.
45 Steady.

May 17 . . . n. = -0.17^s.
18–19 . . . -0.11^r.

May 17, 15h. Image east 0.22. Clamp east.
Image west 0.14. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
May 17, 14.0	+ 36.70	+ 0.043	+ 0.100
18, 5.2	37.18	0.040	. .
19, 15.1	+ 38.71	+ 0.060	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	h. m.	m. s.	s.	h. m. s.	s.
May 19	O. Arg. S. 13357	1	26.1	28.3	29.8	40.5	41.6	42.9	44.2	45.5	56.5	57.7	0.0	56 43.01	+ 0.17	+38.67	13 57 21.85	— 17.27
Y.	* — 32° 23′	2	31.0	33.3	34.7	46.0	47.1	48.8	50.0	51.3	2.6	4.0	6.4	59 48.66	+ 0.19	38.67	14 0 27.52	17.75
	Lacaille 5839	3	. .	. .	. .	33.5	34.9	37.4	55.2	58.0	59.5	0.8	2.5	2 50.22	— 30.31	38.67	14 2 58.58	17.70
	κ Virginis	4	. .	. .	. .	15.1	16.2	18.4	33.6	36.2	37.3	38.5	39.8	5 29.39	— 26.27	38.68	14 5 41.80	15.98
	λ Virginis	5	54.5	56.5	57.8	7.5	8.5	9.7	10.9	12.0	21.9	23.0	25.2	11 9.77	+ 0.13	38.69	14 11 48.59	16.24
	Lacaille 5923	6	16.9	19.3	20.7	31.8	33.1	34.6	36.0	37.2	48.7	50.0	52.4	15 34.61	0.19	38.69	14 16 13.49	18.03
	ρ Bootis	7	4.6	7.0	8.5	19.5	20.7	22.1	23.7	24.9	36.2	37.5	39.8	25 22.23	0.05	38.70	14 26 0.98	13.17
	O. Arg. S. 13759	†8	21.7	23.8	25.3	35.8	36.8	38.2	39.4	40.6	51.3	52.6	54.9	28 38.22	0.16	38.70	14 29 17.08	17.47
	O. Arg. S. 13797	9	10.5	12.8	14.1	24.9	26.0	27.3	28.6	29.8	40.6	41.8	44.2	31 27.33	0.17	38.71	14 32 6.21	17.64
	Moon I	10	35.3	37.3	38.7	48.8	49.8	51.1	52.5	53.6	3.8	5.1	7.3	35 51.21	0.14	38.71	14 36 30.06	. .
	56 Hydræ	11	57.1	59.3	0.7	11.3	12.3	13.8	15.0	16.1	26.8	28.1	30.3	39 13.71	0.16	38.71	14 39 52.58	17.62
	α Libræ	12	30.6	32.6	33.8	43.8	44.9	46.1	47.4	48.4	58.4	59.6	1.7	42 46.12	0.13	38.72	14 43 24.97	16.67
	B. A. C. 4912	13	27.2	29.6	31.1	42.4	43.5	45.1	46.5	47.7	59.1	0.5	2.9	45 45.05	+ 0.19	38.72	14 46 23.96	18.53
	β Ursæ Minoris	14	37.0	44.4	49.2	25.0	28.3	33.3	38.0	41.8	18.2	22.8	30.4	50 33.49	— 0.02	38.73	14 51 12.20	2.45
	O. Arg. S. 14230	15	56.2	58.4	59.7	10.3	11.4	12.7	14.0	15.2	25.9	27.1	29.4	57 12.75	+ 0.16	38.73	14 57 51.64	17.80
	ι^1 Libræ	16	37.2	39.4	40.6	50.7	51.8	53.0	54.2	55.4	5.6	7.0	9.0	3 53.08	0.14	38.74	15 4 31.96	17.22
	Lacaille 6291	17	40.0	42.2	43.6	54.3	55.4	56.8	58.0	59.2	10.3	11.5	13.8	6 56.83	+ 0.17	38.74	15 7 35.74	18.11
	Jupiter I	18	42.4	43.8	45.0	46.2	48.5	. .	51.5	54.0	55.3	56.6	58.0	18 20.13	— 0.11	38.75	15 18 58.77	. .
	Jupiter II	19	7.5	9.5	10.8	20.8	21.8	23.0	24.3	25.3	35.5	36.7	38.9	18 23.10	+ 0.14	38.75	15 19 1.99	. .
	Lacaille 6405	†20	51.9	54.3	55.6	7.2	8.4	9.9	11.2	12.5	24.1	25.4	27.8	22 9.85	0.19	38.76	15 22 48.80	19.09
	Lacaille 6421	†21	46.3	48.9	50.1	1.4	2.6	4.1	5.5	6.7	18.1	19.6	22.0	25 4.12	0.19	38.76	15 25 43.07	19.04
	α Coronæ Borealis	†22	3.2	5.5	6.7	17.4	18.4	19.9	21.2	22.4	33.3	34.6	37.0	28 19.97	0.06	38.76	15 28 58.79	13.08
	Lacaille 6516	23	4.4	6.6	8.0	18.8	19.8	21.2	22.5	23.7	34.6	35.7	38.1	37 21.22	+ 0.17	38.77	15 38 0.16	18.46
	B. A. C. 5220	24	. .	. .	. .	0.7	2.0	4.4	20.9	23.7	25.0	26.4	27.7	40 16.35	— 28.18	38.77	15 40 26.94	17.95
	Lacaille 6562	25	11.8	13.0	14.4	15.6	16.8	. .	49.2	52.0	53.3	54.7	56.3	43 33.71	19.11	38.78	15 43 53.38	18.75
	Lacaille 6576	26	. .	. .	. .	24.5	25.8	28.0	44.7	47.4	48.7	50.0	51.4	45 40.06	— 28.35	38.78	15 45 50.49	18.07
	Lacaille 6624	27	22.7	24.9	26.5	37.8	38.9	40.3	41.7	43.0	54.5	55.9	58.4	50 40.42	+ 0.19	38.78	15 51 19.39	19.33
	Lacaille 6647	28	22.4	24.5	26.1	36.8	37.9	39.1	40.4	41.8	52.7	54.1	56.5	53 39.30	0.17	38.79	15 54 18.26	18.74
	β Scorpii	†29	40.7	43.0	44.2	54.3	55.4	56.7	57.8	59.0	9.2	10.3	12.7	56 56.66	0.14	38.79	15 57 35.59	17.57
	α Scorpii	†30	12.5	14.8	16.3	26.7	27.9	29.1	30.5	31.8	42.6	43.7	46.0	20 29.26	+ 0.17	38.82	16 21 8.25	18.52
R.	Venus I	†31	56.8	58.1	59.3	0.7	3.2	. .	5.4	7.9	9.0	10.5	12.0	46 34.29	— 0.18	- -	- - - -	- -
	Venus II	†32	19.2	21.2	22.6	32.5	33.5	34.8	35.9	36.9	47.0	48.2	50.5	46 34.75	+ 0.07	- -	- - - -	- -
20	Sun I	†33	40.3	42.3	43.7	54.0	55.2	56.6	57.8	58.9	9.3	10.4	12.5	49 56.46	0.07	- -	- - - -	- -
	Sun II	†34	55.9	58.0	59.3	9.3	10.5	11.7	13.0	14.2	24.4	25.7	27.9	51 11.81	+ 0.07	- -	- - - -	- -
	Polaris, S. P.	†35	. .	. .	. .	57.0	21.0	30.0	45.0	0.0	. .	. .	. .	8 30.60	— 1.53	39.40	. . . .	66.32
	ζ Virginis	36	54.4	56.5	57.7	7.2	8.2	9.4	10.6	11.6	21.3	22.5	24.4	27 9.44	+ 0.10	39.38	13 27 48.92	15.15
	O. Arg. S. 13156	37	21.9	24.4	25.9	36.6	37.8	39.4	40.5	42.0	52.7	54.4	56.9	40 39.32	0.18	39.37	13 41 18.87	17.19
	η Bootis	38	20.0	22.2	23.3	33.5	34.6	35.8	37.1	38.2	48.4	49.8	51.8	47 35.88	+ 0.07	39.37	13 48 15.32	14.24
	8 Libræ	39	56.9	58.3	59.6	0.7	3.2	. .	5.4	8.0	9.3	10.7	12.0	42 34.43	— 0.12	39.33	14 43 13.64	16.70
	α Libræ	40	30.1	32.1	33.5	43.1	44.3	45.4	46.6	47.8	57.9	59.0	1.2	42 45.55	+ 0.13	39.33	14 43 25.01	16.67
	ψ Bootis	41	43.8	45.9	47.3	58.0	59.3	0.5	2.0	3.0	14.0	15.0	17.5	58 0.57	0.06	39.32	14 58 39.95	13.18
	ι^1 Libræ	42	36.9	38.9	40.2	50.3	51.4	52.7	53.0	54.8	50.6	6.3	8.5	3 52.63	+ 0.14	39.32	15 4 32.09	17.22
	Jupiter I	43	11.3	12.8	13.9	15.1	17.5	. .	20.3	22.8	24.1	25.5	26.9	17 49.02	— 0.11	39.31	15 18 28.22	. .
	Jupiter II	44	36.4	38.4	39.8	49.8	50.8	52.1	53.4	54.3	4.5	5.6	7.8	17 52.08	+ 0.14	39.31	15 18 31.53	. .
	Moon I	45	34.5	36.6	38.0	47.4	49.5	50.8	51.9	53.2	3.6	4.9	7.1	32 50.68	0.14	39.30	15 33 30.12	. .
	β Scorpii	46	40.4	42.5	43.7	54.0	55.0	56.2	57.4	58.5	8.7	10.0	12.3	56 56.25	+ 0.14	39.28	15 57 35.67	17.58
	B. A. C. 5330	47	18.7	20.0	21.3	22.5	24.9	. .	28.8	31.1	32.4	34.0	35.3	56 56.90	— 0.11	39.28	15 57 36.07	17.59
	ν Scorpii, (1st *)	48	50.9	52.2	53.6	54.8	57.3	. .	0.8	3.4	4.6	6.1	7.4	3 29.11	— 0.11	39.28	16 4 8.28	17.57
	ν Scorpii, (2d *)	49	14.1	16.2	17.5	27.6	28.6	29.9	31.2	32.3	42.5	43.6	45.9	3 29.95	+ 0.14	39.28	16 4 9.37	17.57
	δ Ophiuchi	50	22.3	24.3	25.5	35.0	36.0	37.2	38.5	39.4	48.9	50.2	52.1	6 37.22	+ 0.11	+39.28	16 7 16.61	— 15.86

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 20, 14.8	+ 39.33	— 0.040	+ 0.100

8. Faint.
20–21. Faint.
22. Unsteady.
29. Unsteady.
30. Unsteady.
31–32. Faint.
33. Serrated and flaming.
34. Better defined.
35. Unsteady.

s.
May 20, n. = — 0.11.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 21	Saturn I	1	22.4	24.5	25.8	35.3	36.3	37.5	38.7	39.6	49.3	50.4	52.5	46 37.48	+ 0.10	+39.87	12 47 17.45	- -
Y.	Saturn II	2	2.6	4.0	5.3	6.5	8.7	- -	8.9	11.2	12.5	13.7	15.1	46 38.85	— 0.14	39.87	12 47 18.58	- -
	α Canum Venaticorum	3	43.0	45.6	47.3	59.4	0.6	2.3	3.9	5.2	17.5	19.0	21.7	49 2.32	+ 0.04	39.87	12 49 42.23	— 13.81
	Polaris, S. P.	4	- -	- -	- -	0.0	20.0	32.0	42.5	41.0	30.0	43.0	22.0	5 8.81	3 20.92	39.86	- - -	67.11
	ζ Virginis	5	53.9	55.9	57.2	6.7	7.6	8.9	10.0	11.0	20.7	21.9	24.0	27 8.89	0.10	39.85	13 27 48.84	15.14
	β Libræ	6	49.9	52.0	53.2	2.7	3.7	4.9	6.0	7.2	17.0	18.1	20.2	9 4.99	0.12	39.80	15 9 44.91	16.23
	Jupiter I	†7	2.8	4.8	6.1	16.0	17.0	18.3	19.7	20.7	30.7	31.8	34.1	17 18.36	+ 0.14	39.79	15 17 58.29	- -
	Jupiter II	8	43.7	45.2	46.5	47.8	51.1	- -	53.1	55.5	56.8	58.2	59.7	17 21.76	— 0.11	39.79	15 18 1.44	- -
	β Scorpii	9	39.8	42.0	43.3	53.4	54.5	55.8	56.9	58.0	8.2	9.4	11.6	56 55.72	+ 0.14	39.77	15 57 35.63	17.59
	ν Scorpii, (2d *)	10	13.4	15.7	17.0	27.0	28.0	29.3	30.5	31.6	41.8	43.0	45.3	3 29.33	+ 0.14	39.77	16 4 9.24	17.58
	Moon II	†11	58.3	59.3	0.6	1.8	3.0	- -	34.0	36.7	38.0	39.4	40.8	35 19.19	— 18.36	39.76	16 35 40.59	- -
22	Weisse 854	12	- -	- -	- -	34.4	35.6	37.9	53.0	55.4	56.7	57.9	59.4	44 48.79	— 26.01	40.08	16 45 2.86	16.14
	κ Ophiuchi	13	21.7	23.6	25.0	34.7	35.8	36.9	38.0	39.1	48.8	49.9	52.0	50 36.86	+ 0.06	40.08	16 51 17.00	14.46
	θ Ophiuchi	14	46.5	48.7	49.9	0.6	1.8	2.9	4.3	5.5	16.2	17.5	19.6	13 2.05	0.23	40.08	17 13 25.36	18.50
	B. A. C. 5868	15	54.7	56.8	58.1	8.6	9.7	10.9	12.2	13.3	23.9	25.2	27.3	16 10.97	0.23	40.08	17 16 51.28	18.40
	b Ophiuchi,	16	11.0	13.1	14.5	25.0	26.2	27.5	28.8	29.9	40.3	41.6	43.9	17 27.44	0.23	40.08	17 18 7.75	18.39
	Lacaille 7330	17	30.0	32.4	33.8	45.3	46.5	48.0	49.4	50.6	2.2	3.6	6.1	22 47.99	+ 0.30	40.08	17 23 28.37	19.97
	Lacaille 7347	18	- -	- -	- -	10.2	11.4	12.7	14.0	15.2	26.6	28.0	30.5	25 18.58	— 5.56	40.08	17 25 53.10	19.57
	Moon II	19	3.1	4.7	6.1	7.4	9.9	- -	15.9	18.7	20.0	21.6	22.8	36 42.91	+ 0.08	40.08	17 37 23.07	- -
		20	26.4	28.5	29.8	40.5	41.5	42.7	44.0	45.3	55.8	57.0	59.3					
	B. A. C. 6032	21	34.8	37.2	38.6	49.7	50.9	52.4	53.7	54.9	6.1	7.6	9.8	42 52.34	0.27	40.08	17 43 32.69	19.43
	O. Arg. S. 17376	22	20.0	22.3	23.6	33.9	35.0	36.3	37.5	38.8	49.2	50.5	52.5	47 36.33	0.22	40.08	17 48 16.63	18.25
	4 Sagittarii	23	36.4	38.4	39.8	50.3	51.4	52.6	53.8	55.0	5.4	6.6	8.8	50 52.59	0.22	40.08	17 51 32.89	18.30
	* — 22° 50′	24	48.6	50.5	51.9	2.2	3.3	4.6	5.8	7.0	- -	- -	- -	54 59.24	5.63	40.08	17 55 44.95	18.16
	O. Arg. S. 17648	25	18.9	21.0	22.3	32.5	33.6	34.8	36.0	37.1	47.5	48.8	51.0	58 34.86	0.21	40.08	17 59 15.15	17.95
	O. Arg. S. 17681	26	26.7	28.9	30.3	40.6	41.6	42.8	44.1	45.3	55.6	56.8	59.0	59 42.88	+ 0.21	40.08	18 0 23.17	— 17.94
	δ Ursæ Minoris	27	32.0	4.5	25.0	5.0	23.0	43.0	3.5	19.5	3.0	23.5	57.0	15 43.55	— 2.69	40.08	- - -	+ 69.59
	1 Aquilæ	28	55.9	58.1	59.4	9.1	10.0	11.2	12.5	13.6	23.2	24.5	26.5	27 11.27	+ 0.14	40.08	18 27 51.49	— 16.25
	51 Cephei, S. P.	29	- -	- -	- -	36.0	16.5	51.5	28.0	6.0	- -	- -	- -	34 51.60	2.33	40.08	6 35 34.01	116.67
	α Arietis	†30	35.6	37.7	39.0	49.4	50.4	51.7	53.0	54.0	4.6	5.9	8.1	58 51.76	0.00	40.02	1 59 31.78	14.52
R.	Venus I	†31	46.2	48.4	49.7	59.4	0.5	1.8	3.0	4.0	14.2	15.4	17.4	1 1.82	+ 0.03	40.02	3 1 41.87	- -
	Venus II	†32	25.0	26.5	27.8	29.0	31.4	- -	34.0	36.5	37.9	39.2	40.6	1 2.79	— 0.22	40.02	3 1 42.59	- -
23	Sun II	†33	35.0	36.4	37.6	39.0	41.3	- -	11.1	12.2	13.3	14.6	15.7	2 55.62	+ 17.82	40.01	4 3 53.45	67.82
	β Orionis	†34	- -	- -	- -	- -	- -	- -	51.0	53.5	54.7	56.0	57.4	7 54.52	— 33.87	40.01	5 8 0.66	12.00
	Moon II	35	36.8	38.9	40.1	50.7	51.8	53.2	54.5	55.6	6.2	7.4	9.4	38 53.15	+ 0.20	39.94	18 39 33.29	- -
	σ Sagittarii	†36	56.6	58.6	0.0	10.8	11.9	13.2	14.4	15.7	26.4	27.9	29.9	46 13.22	0.24	39.94	18 46 53.40	18.42
	ξ^2 Sagittarii	37	44.0	46.2	47.5	57.8	58.8	0.1	1.4	2.5	12.9	14.0	16.2	49 0.13	+ 0.21	39.94	18 49 40.28	17.70
	Venus I	38	15.9	17.2	18.5	19.7	22.2	- -	25.3	27.5	28.8	30.3	31.5	5 53.69	— 0.22	40.00	3 6 33.47	- -
	Venus II	39	38.5	40.6	42.0	51.7	53.0	54.3	55.5	56.6	6.7	7.8	10.0	5 54.25	+ 0.03	40.00	3 6 34.28	- -
24	Sun I	40	43.4	45.5	46.8	57.1	58.0	59.4	0.8	1.8	12.1	13.3	15.5	4 59.43	0.01	40.01	4 5 39.45	- -
	Sun II	41	59.2	1.2	2.6	12.9	13.9	15.2	16.4	17.5	28.0	29.2	31.5	7 15.24	0.01	40.01	4 7 55.26	- -
	α Canis Majoris	42	14.0	15.9	17.3	27.1	28.2	29.5	30.8	31.8	41.8	43.1	45.2	38 29.52	0.18	40.03	6 30 9.73	11.13
	γ Aquilæ	†43	- -	- -	- -	7.9	8.9	10.2	11.4	12.5	- -	- -	- -	40 10.19	+ 0.10	40.12	19 40 50.41	14.16
	Moon II	44	-	- -	- -	7.9	8.9	10.2	11.4	12.5	23.0	24.3	26.4	40 15.58	— 5.15	40.12	19 40 50.55	- -
	β Aquilæ	45	45.5	47.7	48.7	58.1	59.1	0.4	1.7	2.7	12.3	13.5	15.8	48 0.50	+ 0.07	40.12	19 48 40.69	— 14.54
	λ Ursæ Minoris	†46	- -	- -	- -	53.0	44.0	50.0	45.0	46.0	- -	- -	- -	59 47.60	— 5.85	40.12	- - -	+ 210.94
	a^2 Capricorni	47	37.5	39.6	40.9	50.5	51.5	52.8	54.0	55.1	4.8	6.0	8.4	9 52.83	+ 0.16	40.12	20 10 33.11	— 16.17
	ρ Capricorni	48	- -	14.6	15.9	26.2	27.3	28.6	29.9	30.9	41.1	42.1	44.4	20 30.10	— 1.38	40.12	20 21 8.84	— 16.54
	Venus I	49	- -	- -	- -	43.9	45.0	46.2	47.5	48.5	58.5	59.8	1.9	10 51.41	5.16	40.18	3 11 26.43	- -
	Venus II	50	- -	- -	- -	- -	- -	- -	18.7	21.1	22.5	23.9	25.2	11 22.28	— 35.22	+40.18	3 11 27.24	- -

7. Faint.
11. Under clouds.
30. Faint.
31–32. Faint, through clouds.
33. Through clouds.
34. Through clouds.
36. Faint.
43. Blurred.
46. Very faint.

		s.
May 21,	- - - n. =	— 0.11.
22,	- - -	0.26.
23–25,	- - -	0.26.
27–29,	- - -	— 0.15.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
May 21, 14.4	+ 39.82	— 0.030	+ 0.100
22, 17.5	40.08	+ 0.000	- -
23, 8.6	39.99	— 0.005	- -
24, 17.4	+ 40.10	+ 0.007	- -

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 25 R.	Sun I	1	45.6	47.7	49.0	59.1	0.1	1.5	2.7	3.9	14.4	15.6	17.7	9 1.57	+ 0.01	+40.18	4 9 41.76	- -
	Sun II	2	1.5	3.6	4.9	15.1	16.2	17.5	18.7	19.8	30.2	31.5	33.7	11 17.52	0.01	40.18	4 11 57.71	- -
	α Canis Majoris	3	13.8	15.7	17.2	27.0	28.1	29.3	30.6	31.6	41.7	42.9	45.0	38 29.35	0.18	40.20	- - - -	— 11.12
27	Sun I	4	51.7	54.0	55.2	5.4	6.5	7.8	9.0	10.2	20.6	21.7	24.1	17 7.84	- -	- -	- - - -	- -
	Sun II	5	7.8	10.0	11.5	21.6	22.6	24.0	25.3	26.4	36.7	37.9	40.2	19 24.00	- -	- -	- - - -	- -
	α Aquarii	6	55.0	57.0	58.2	7.8	8.8	10.0	11.2	12.2	21.6	22.9	24.9	58 9.96	0.10	40.03	21 58 50.09	14.54
	Moon II	7	50.9	52.9	54.1	3.9	4.9	6.2	7.4	8.5	18.5	19.6	21.7	33 6.24	0.11	40.03	22 33 46.38	- -
	α Piscis Australis	8	12.0	14.3	15.6	26.8	27.9	29.4	30.7	31.8	42.9	44.4	46.6	49 29.31	+ 0.20	40.03	22 50 9.54	15.15
Y.	Polaris	†9	- -	- -	- -	- -	- -	- -	59.5	- -	25.0	18.0	- -	31 54.17	—22 20.89	40.04	- - - -	- -
	β Arietis	10	50.7	52.3	53.5	54.8	57.2	- -	1.2	3.8	5.0	6.5	7.8	46 29.12	— 0.07	40.04	1 47 9.09	14.41
		11	13.0	15.2	16.5	26.6	27.8	29.0	30.2	31.3	41.4	42.8	44.9					
	α Arietis	12	35.5	37.7	39.1	49.4	50.6	51.9	53.0	54.2	4.6	5.8	8.2	58 51.82	+ 0.04	40.04	1 59 31.90	14.63
	Venus I	13	54.0	55.3	56.7	57.9	0.5	- -	3.6	6.2	7.5	8.9	10.3	25 32.09	— 0.10	40.04	3 26 12.03	- -
	Venus II	14	16.8	18.8	20.1	30.3	31.3	32.5	33.8	34.8	45.0	46.3	48.4	25 32.55	+ 0.15	40.04	3 26 12.74	- -
28	Sun I	15	55.3	57.4	58.7	- -	- -	- -	- -	- -	24.2	25.5	27.7	21 11.47	0.01	40.04	4 21 51.52	- -
	Sun II	16	11.8	13.8	15.3	25.5	26.7	27.9	29.2	30.2	40.7	41.9	44.0	23 27.91	+ 0.05	40.04	4 24 8.00	- -
	β Orionis	17	18.4	19.4	20.5	21.6	22.7	- -	51.3	53.5	54.7	56.0	57.3	7 37.54	— 16.87	40.04	5 8 0.71	12.01
	α Canis Majoris	18	14.0	16.2	17.3	27.2	28.2	29.5	30.7	31.8	41.8	43.1	45.2	38 29.55	+ 0.15	40.04	6 39 9.74	11.11
	α Aquarii	19	54.5	56.8	57.9	7.2	8.1	9.5	10.9	11.9	21.5	22.6	24.6	58 9.59	0.10	40.44	21 58 50.15	14.57
	α Piscis Australis	20	11.5	13.7	15.2	26.4	27.6	28.8	30.1	31.4	42.5	43.9	46.3	49 28.85	0.20	40.44	22 50 9.51	15.17
	α Pegasi	21	5.2	7.3	8.5	18.2	19.5	20.6	21.8	23.0	33.0	34.1	36.3	57 20.68	0.07	40.44	22 58 1.21	13.87
	Moon II	22	41.0	43.0	44.4	54.3	55.2	56.4	57.5	58.6	8.5	9.7	11.9	27 56.41	0.10	40.44	23 28 36.97	- -
29	α Andromedæ	23	25.9	28.2	29.7	40.3	41.5	43.0	44.3	45.6	56.3	57.8	0.0	0 42.96	0.03	40.48	0 1 23.47	14.09
	γ Pegasi	24	19.7	21.8	23.2	32.9	34.0	35.2	36.4	37.6	47.5	48.7	50.8	5 35.25	0.07	40.48	0 6 15.80	13.96
	Moon II	25	16.6	18.7	20.0	29.8	30.9	32.0	33.2	34.4	44.3	45.5	47.7	22 32.10	0.11	40.48	0 23 12.69	- -
30 R.	Sun I	†26	4.0	6.0	7.5	17.8	18.8	20.2	21.5	22.5	33.0	34.5	36.5	29 20.21	0.09	40.42	4 30 0.72	- -
	Sun II	†27	20.7	22.9	24.3	34.5	35.5	36.8	38.1	39.2	49.7	51.0	53.2	31 36.90	+ 0.09	40.42	4 32 17.41	- -
	Polaris, S. P.	28	42.0	23.0	30.0	-	- -	- -	- -	- -	- -	- -	- -	17 31.67	— 8 56.54	40.43	- - - -	- -
	O. Arg. S. 13085	29	23.1	25.4	26.8	37.4	38.7	40.0	41.2	42.5	53.4	54.7	57.1	35 40.03	+ 0.14	40.43	13 36 20.60	16.90
	O. Arg. S. 13156	30	20.8	23.0	24.4	35.5	36.6	38.0	39.6	40.7	51.8	53.0	55.5	40 38.08	0.15	40.43	13 41 18.66	17.15
	O. Arg. S. 13215	31	8.8	11.0	12.3	22.8	23.9	25.3	26.6	27.7	38.5	39.7	42.0	45 25.33	0.14	40.43	13 46 5.90	16.92
	η Bootis	32	18.8	20.9	22.3	32.3	33.4	34.7	35.9	37.1	47.4	48.4	50.8	47 34.73	0.09	40.43	13 48 15.25	14.19
	Brisbane 4727	33	6.8	9.3	10.9	22.6	23.8	25.4	26.9	28.3	40.3	41.6	44.4	52 25.48	0.16	40.43	13 53 6.07	18.03
	O. Arg. S. 13357	34	24.3	26.6	27.9	28.6	39.7	41.3	42.5	43.6	54.8	56.0	58.4	56 41.25	0.14	40.43	13 57 21.82	17.25
	* — 32° 24′	35	29.3	31.5	33.0	44.3	45.5	46.9	48.3	49.5	0.9	2.2	4.8	59 46.93	0.15	40.43	14 0 27.51	17.73
	50 Hydræ	36	5.2	7.5	8.8	19.3	20.4	21.8	23.1	24.2	35.2	36.5	38.7	4 21.88	0.14	40.43	14 5 2.45	17.26
	Lacaille 5872	37	21.4	23.6	25.0	36.5	37.6	39.1	40.4	41.8	53.2	54.6	56.9	7 39.10	0.15	40.43	14 8 19.68	17.89
	O. Arg. S. 13541	38	23.5	25.6	26.9	37.8	38.9	40.2	41.4	42.7	53.5	54.9	57.4	11 40.25	+ 0.14	40.43	14 12 20.82	17.45
	O. Arg. S. 13561	39	- -	- -	- -	30.3	31.5	32.8	34.3	35.3	46.2	47.5	49.9	13 38.48	— 5.46	40.43	14 14 13.45	17.53
	Lacaille 5923	40	15.0	17.5	18.9	30.0	31.4	32.7	34.3	35.4	46.9	48.4	50.7	15 32.84	+ 0.15	40.43	14 16 13.42	18.02
	Lacaille 5932	41	31.3	33.6	34.9	46.4	47.5	49.0	50.4	51.5	2.9	4.3	6.8	16 48.96	0.15	40.43	14 17 29.54	18.03
	O. Arg. S. 13663	42	47.9	50.0	51.5	2.0	3.2	4.4	5.7	6.8	17.4	18.8	21.0	21 4.43	0.13	40.43	14 21 44.99	17.40
	* — 25° 32′	43	9.6	11.6	13.0	23.8	24.8	26.0	27.4	28.5	39.3	40.6	42.9	22 26.14	0.13	40.43	14 23 6.70	17.43
	ρ Bootis	44	2.8	5.2	6.7	17.8	19.0	20.4	21.7	23.0	34.2	35.4	38.0	25 20.38	+ 0.09	40.43	14 26 0.90	13.12
	Lalande 26560	45	- -	- -	- -	2.0	3.2	5.7	23.4	26.1	27.5	29.0	30.5	26 18.42	— 30.21	40.43	14 26 28.64	13.16
	O. Arg. S. 13813	46	14.5	16.2	17.6	18.7	21.5	- -	28.0	30.7	32.2	33.5	34.9	31 54.78	— 0.13	40.43	14 32 35.08	17.57
	O. Arg. S. 13814	47	43.1	45.0	46.4	56.9	58.0	59.3	0.7	1.9	12.7	14.0	16.3	31 59.48	+ 0.13	40.43	14 32 40.04	17.57
	* — 25° 15′	48	15.7	17.9	19.3	30.0	31.0	32.3	33.7	34.8	45.4	46.8	49.0	36 32.35	0.13	40.43	14 37 12.91	17.58
	56 Hydræ	49	55.4	57.6	58.9	9.5	10.5	11.8	13.1	14.3	25.0	26.4	28.6	39 11.92	+ 0.13	+40.43	14 39 52.48	— 17.65

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 25, 6.7	+ 40.20	+ 0.007	+ 0.100
27, 22.4	40.03	0.000	- -
3.9	40.04	0.000	- -
28, 22.6	40.46	0.000	- -
30, 10.5	+ 40.43	+ 0.001	+ 0.100

9. Faint: through clouds.
26. Unsteady.
27. Unsteady.

	s.
May 27–29, n. =	— 0.15.
30,	— 0.05.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 30	8 Libræ	1	55.7	57.2	58.4	59.7	2.0	. .	4.4	6.9	8.2	9.5	10.8	42 33.28	— 0.13	+40.43	14 43 13.58	— 16.72
R.	α Libræ	2	29.0	31.0	32.1	42.0	43.1	44.3	45.7	46.7	56.8	57.9	59.9	42 44.41	+ 0.12	40.43	14 43 24.96	16.68
	O. Arg. S. 14230 .	3	54.6	56.7	58.0	8.6	9.8	11.0	12.3	13.5	24.3	25.5	27.8	57 11.10	+ 0.13	40.43	14 57 51.66	17.75
	O. Arg. S. 14279 .	4	. .	. .	. .	. .	. .	. .	26.8	29.3	30.6	31.9	33.4	0 30.40	— 36.05	40.43	15 1 34.78	17.47
	O. Arg. S. 14297 .	5	. .	. .	. .	52.7	54.0	56.0	12.4	14.9	16.3	17.7	19.0	1 7.88	27.88	40.43	15 1 20.43	17.49
	O. Arg. S. 14366 .	6	57.0	59.1	0.5	11.0	12.2	13.5	14.8	16.0	26.7	28.0	30.2	5 13.55	+ 0.13	40.43	15 5 54.11	17.96
	* — 25° 25′ . .	7	36.9	38.6	39.9	41.1	43.7	. .	50.3	52.9	54.3	55.7	57.1	5 17.05	— 0.13	40.43	15 5 57.35	17.95
	β Libræ	8	. .	. .	. .	2.0	3.1	4.3	5.5	6.6	16.3	17.5	19.5	9 9.35	4.91	40.43	15 9 44.87	16.27
	Jupiter I . . .	9	19.0	2.1	21.3	22.6	25.0	. .	27.8	30.2	31.5	32.8	34.2	12 56.45	— 0.13	40.43	15 13 36.75	. .
	Jupiter II . . .	10	43.7	46.0	47.2	57.0	58.1	59.5	0.7	1.9	11.9	13.0	15.0	12 59.45	+ 0.12	40.43	15 13 40.00	. .
	O. Arg. S. 14554 .	11	56.3	58.5	59.7	10.0	11.0	12.4	13.7	14.9	25.4	26.5	28.6	18 12.45	0.13	40.43	15 18 53.01	17.69
	Weisse 444 . . .	12	3.9	5.8	7.0	16.8	17.8	19.0	20.2	21.3	31.0	32.3	34.3	24 19.04	+ 0.11	40.43	15 24 59.58	16.41
	α Cor. Borealis . .	13	. .	. .	. .	15.7	17.0	18.3	19.6	20.8	31.5	33.0	35.3	28 23.90	— 5.48	40.43	15 28 58.85	13.11
Y.	Polaris	14	. .	. .	. .	3.0	42.0	32.0	21.0	1.5	. .	. .	. .	8 31.90	+ 3.96	. .	. . . .	73.75
	Moon II . . .	15	18.6	20.7	22.0	31.7	32.9	34.1	35.4	36.5	46.5	47.7	49.8	17 34.17	+ 0.09	40.61	1 18 14.87	. .
31	Lacaille 5278 . .	16	. .	. .	. .	2.2	3.8	6.2	24.1	27.0	28.5	29.9	31.4	39 19.14	— 30.71	40.78	12 39 29.21	16.01
	Saturn I . . .	17	54.3	55.6	56.9	57.9	0.3	. .	0.5	2.7	4.0	5.2	6.5	45 30.39	— 0.14	40.78	12 46 11.03	. .
	Saturn II . . .	18	16.3	18.2	19.7	29.0	30.0	31.2	32.4	33.5	42.9	44.3	46.5	45 31.27	+ 0.10	40.78	12 46 12.15	. .
	B. A. C. 4345 . .	19	13.6	15.5	17.0	18.6	21.5	. .	38.8	41.9	43.5	45.2	47.2	49 0.28	— 0.22	40.78	12 49 40.84	13.74
	α Canum Venaticorum	20	42.0	44.6	46.0	58.4	59.6	1.2	2.8	4.2	16.5	17.8	20.5	49 1.24	+ 0.09	40.78	12 49 42.11	13.66
	O. Arg. S. 12588 .	21	28.5	30.7	32.1	43.2	44.4	45.8	47.1	48.4	59.6	0.8	3.1	53 45.79	0.15	40.77	12 54 26.71	16.22
	O. Arg. S. 12620 .	22	6.4	8.6	9.9	20.6	21.7	23.1	24.3	25.4	36.2	37.5	39.7	56 23.03	0.14	40.77	12 57 3.94	16.06
	O. Arg. S. 12655 .	23	16.8	19.0	20.5	31.4	32.7	34.0	35.4	36.5	47.7	49.0	51.4	59 34.04	0.14	40.77	13 0 14.95	16.32
	θ Virginis	24	1.5	3.6	4.9	14.4	15.3	16.6	17.7	18.8	28.5	29.7	31.8	2 16.62	+ 0.11	40.77	13 2 57.50	15.23
	Polaris, S. P. .	25	. .	. .	. .	9.0	29.0	40.5	51.5	9.0	. .	. .	. .	8 39.80	— 3.96	40.76	. . . .	74.18
	Lacaille 5514 . .	26	35.7	38.0	39.4	50.9	52.0	53.4	54.8	56.0	7.5	8.9	11.3	14 53.45	+ 0.15	40.76	13 15 34.36	16.82
	* — 34° 54′ . .	27	. .	24.4	26.2	38.2	39.3	40.6	42.0	43.4	55.2	56.6	. .	18 40.66	+ 0.17	40.76	13 19 21.59	17.08
	* — 32° 46′ . .	28	. .	. .	. .	14.4	15.6	17.0	18.5	19.7	31.2	32.6	35.0	20 23.00	— 5.74	40.76	13 20 58.02	16.96
	* — 34° 29′ . .	29	5.7	8.0	9.4	20.1	21.3	22.6	23.8	25.1	36.0	37.3	39.5	23 22.62	+ 0.16	40.76	13 24 3.54	17.15
	* — 34° 28′ . .	30	23.5	25.7	27.4	38.9	40.2	41.6	43.1	44.2	56.0	57.5	0.0	37 41.65	+ 0.16	40.75	13 38 22.56	17.47
	O. Arg. S. 13167 .	31	55.4	57.0	58.3	59.6	2.1	. .	9.8	12.5	13.9	15.4	16.8	41 36.09	— 0.13	40.75	13 42 16.71	16.96
	O. Arg. S. 13169 .	32	25.4	27.7	29.0	40.0	41.0	42.3	43.5	44.7	55.5	56.9	58.9	41 42.26	+ 0.14	40.75	13 42 23.15	16.96
	* — 38° 23′ . .	33	27.2	29.6	31.1	43.2	44.5	46.1	47.7	49.0	1.3	2.8	5.5	44 46.18	0.17	40.75	13 45 27.10	18.02
	O. Arg. S. 13243 .	34	12.0	14.3	15.7	26.6	27.8	29.2	30.4	31.7	43.0	44.2	46.6	47 29.23	0.14	40.75	13 48 10.12	17.26
	* — 36° 48′ . .	35	21.3	23.9	25.4	37.3	38.4	39.7	41.3	42.5	54.7	56.3	58.8	51 39.96	0.16	40.74	13 52 20.86	18.01
	* — 37° 6′ . . .	36	59.3	1.8	3.4	15.3	16.5	18.2	19.6	20.9	33.1	34.5	37.0	55 18.15	0.16	40.74	13 55 59.05	18.12
	* — 26° 32′ . .	37	15.8	18.1	19.5	30.1	31.2	32.6	33.9	35.1	45.9	47.0	49.4	59 32.60	0.14	40.74	14 0 13.48	17.20
	* — 26° 44′ . .	38	36.7	38.9	40.1	50.6	51.7	53.0	54.3	55.4	6.1	7.3	9.6	1 53.06	+ 0.14	40.74	14 2 33.94	17.23
	* — 26° 4′ . . .	39	. .	. .	. .	32.4	33.4	34.7	36.0	37.1	47.8	49.0	51.3	2 40.21	— 5.38	40.74	14 3 15.57	17.18
	50 Hydræ	40	. .	. .	. .		. .	. .	55.4	58.0	59.4	0.9	2.2	4 59.18	— 37.50	40.74	14 5 2.42	17.27
	Lacaille 5883 . .	41	26.5	28.8	30.1	41.7	42.8	44.1	45.6	46.7	58.3	59.6	2.0	9 44.20	+ 0.15	40.73	14 10 25.08	17.90
	O. Arg. S. 13541 .	42	22.9	25.2	26.6	37.3	38.5	39.8	41.0	42.4	53.2	54.5	56.7	11 39.83	0.14	40.73	14 12 20.70	17.45
	O. Arg. S. 13561 .	43	15.6	17.8	19.2	30.0	31.0	32.4	33.8	35.0	45.9	47.2	49.5	13 32.49	+ 0.14	40.73	14 14 13.36	17.50
	* — 27° 30′ . .	44	. .	. .	. .	34.3	35.7	37.8	55.0	57.7	59.1	0.6	2.0	15 50.28	— 29.19	40.73	14 16 1.82	17.51
	* — 27° 30′ . .	45	25.6	27.7	29.2	40.0	41.0	42.4	43.7	44.9	55.7	57.1	59.3	16 42.42	+ 0.14	40.73	14 17 23.29	17.53
	* — 27° 19′ . .	46	46.5	48.7	50.0	0.8	1.9	3.2	4.5	5.8	16.6	17.9	20.2	20 3.28	0.14	40.73	14 20 44.15	17.56
	O. Arg. S. 13647 .	47	58.6	0.9	2.3	12.9	14.0	15.2	16.5	17.8	28.5	30.0	32.2	22 15.35	0.14	40.73	14 22 56.22	17.49
	O. Arg. S. 13702 .	48	25.7	28.0	29.3	40.0	41.0	42.4	43.6	44.9	55.6	56.9	59.2	23 42.42	+ 0.14	40.73	14 24 23.29	17.50
	ρ Bootis	49	. .	. .	. .	34.0	35.3	37.6	55.1	58.0	59.5	1.0	2.5	25 50.38	— 30.25	40.73	14 26 0.86	13.12
	O. Arg. S. 13757 .	50	19.5	21.7	23.0	33.5	34.6	36.0	37.4	38.5	49.1	50.4	52.6	28 36.03	+ 0.14	+40.73	14 29 16.90	— 17.48

May 31 . . . . n. = — 0.05 s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 31, 15.0	+ 40.71	— 0.029	+ 0.100

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 31	O. Arg. S. 13813 .	1	14.4	15.9	17.2	18.5	21.0	. .	27.7	30.2	31.7	33.0	34.5	31 54.41	— 0.12	+40.72	14 32 35.01	— 17.58
Y.	O. Arg. S. 13814 .	2	42.4	44.7	46.0	56.6	57.7	59.0	0.4	1.6	12.2	13.5	15.8	31 59.08	+ 0.14	40.72	14 32 39.94	17.58
	54 Hydræ	3	51.2	52.8	54.0	55.4	58.0	. .	4.2	6.8	8.2	9.6	11.0	37 31.12	— 0.13	40.72	14 38 11.71	17.57
	B. A. C. 4865 . .	4	14.8	17.0	18.4	28.8	30.0	31.3	32.6	33.8	44.5	45.9	47.8	37 31.35	+ 0.13	40.72	14 38 12.20	17.57
	* — 36° 49′ . .	5	41.7	44.2	45.8	57.8	59.0	0.5	1.9	3.1	15.3	16.7	19.2	41 0.47	0.17	40.72	14 41 41.36	19.02
	B. A. C. 4912 . .	6	25.3	27.6	29.0	40.3	41.6	42.9	44.5	45.6	57.0	. .	0.8	45 41.46	1.70	40.72	14 46 23.88	18.56
	* — 26° 15′ . .	7	5.8	7.8	9.5	20.1	21.2	22.5	23.8	25.0	35.7	37.0	39.1	48 22.50	0.14	40.72	14 49 3.36	17.84
	Lacaille 6198 . .	8	45.7	48.1	49.5	0.8	1.9	3.3	4.6	5.8	17.3	18.7	21.4	54 3.37	0.15	40.71	14 54 44.23	18.61
	ψ Bootis . . .	9	42.3	44.6	45.9	56.6	57.8	59.1	0.4	1.6	12.4	13.8	16.0	57 59.14	0.09	40.71	14 58 39.94	13.18
	Lacaille 6258 . .	10	25.0	27.4	29.1	40.3	41.5	43.0	44.5	45.7	57.1	58.6	0.9	2 43.01	0.15	40.71	15 3 23.87	18.87
	Lacaille 6277 . .	11	23.4	25.8	27.1	38.4	39.5	40.8	42.2	43.5	54.7	56.1	58.4	5 40.90	0.15	40.71	15 6 21.76	18.70
	Lacaille 6304 . .	12	39.6	41.8	43.1	54.1	55.3	56.7	52.9	59.2	10.4	11.7	14.1	8 56.72	0.14	40.71	15 9 37.57	18.50
	Jupiter I . . .	13	12.9	15.0	16.3	26.0	27.0	28.2	29.6	30.7	40.8	42.0	44.1	12 28.40	+ 0.12	40.70	15 13 9.22	. .
	Jupiter II . . .	14	54.1	55.5	56.9	58.2	0.5	. .	3.1	5.7	7.0	8.3	9.8	12 31.91	— 0.13	40.70	15 13 12.48	. .
	Lacaille 6368 . .	15	16.8	19.3	21.0	33.3	34.7	36.3	38.0	39.2	51.5	53.2	55.7	16 36.27	+ 0.17	40.70	15 17 17.14	20.04
	Lacaille 6388 . .	16	. .	. .	. .	49.8	51.0	52.5	54.0	55.3	7.7	9.2	11.7	19 58.90	— 6.13	40.70	15 20 35.47	19.88
	Thetis	†17	32.3	33.2	34.4	35.6	36.7	. .	4.6	7.1	8.8	10.0	11.4	24 51.41	— 16.91	40.70	15 25 15.20	. .
	O. Arg. S. 14701 .	18	25.6	27.8	29.1	39.7	40.8	42.2	43.5	44.7	55.4	56.6	59.0	28 42.22	+ 0.14	40.70	15 29 23.06	18.24
	Lacaille 6471 . .	19	10.2	12.8	14.3	26.7	27.9	29.6	30.9	32.3	44.9	46.3	49.0	31 29.54	+ 0.17	40.69	15 32 10.40	20.28
	α Serpentis . . .	20	. .	43.6	44.9	54.5	55.4	56.6	57.8	58.8	8.5	9.8	11.8	36 58.17	— 1.40	40.69	15 37 37.46	14.99
	O. Arg. S. 15950 .	21	29.5	31.8	33.1	43.9	45.2	46.7	48.0	49.2	0.0	1.5	3.7	38 46.60	+ 0.14	40.66	16 39 27.40	19.14
	Weisse 92 . . .	22	. .	. .	. .	. .	. .	. .	50.6	53.0	54.3	55.4	56.8	41 54.02	— 33.67	40.66	16 42 1.01	16.18
	Weisse 854 . . .	23	6.8	8.9	10.2	19.8	20.8	22.0	23.2	24.4	34.0	35.1	37.1	44 22.03	+ 0.11	40.66	16 45 2.80	16.26
	B. A. C. 5684 . .	24	.	. .	. .	45.5	46.8	49.0	6.9	9.8	11.0	12.5	14.3	47 1.98	— 30.22	40.66	16 47 12.42	19.54
	κ Ophiuchi . . .	25	21.2	23.4	24.5	34.0	35.0	36.3	37.6	38.5	48.2	49.5	51.6	50 36.35	+ 0.09	40.66	16 50 17.10	14.56
	B. A. C. 5730 . .	26	20.0	22.2	23.5	33.9	35.0	36.4	37.6	38.8	49.3	50.7	52.8	54 36.38	0.13	40.65	16 55 17.16	18.51
	Weisse 46 . . .	27	38.9	40.9	42.0	51.7	52.7	53.8	55.0	56.0	5.8	6.9	9.0	3 53.88	0.10	40.65	17 4 34.63	16.15
	α Herculis . . .	28	33.8	35.8	37.2	47.0	48.0	49.2	50.5	51.6	1.5	2.6	4.9	7 49.28	0.09	40.65	17 8 30.02	14.13
R.	Venus II . . .	29	12.4	14.5	15.9	25.8	26.9	28.1	29.5	30.5	40.8	42.0	44.3	45 28.25	0.12	40.73	3 46 9.10	0.36
June 1	Sun I	30	14.6	16.6	18.0	28.0	29.4	30.8	31.9	33.0	43.5	44.8	47.0	37 30.69	0.11	40.74	4 38 11.54	. .
	Sun II	31	31.3	33.4	34.7	45.0	46.2	47.5	48.9	50.0	0.3	1.5	3.6	39 47.49	0.11	40.74	4 40 28.34	. .
	α Orionis	†32	53.4	55.5	56.6	. .	. .	. .	. .	. .	20.5	21.7	23.8	47 8.58	0.07	40.76	. . . .	13.81
	μ Bootis	33	23.9	26.8	28.1	40.0	41.3	43.0	44.4	45.7	58.0	59.3	2.0	18 42.95	0.13	40.94	. . . .	11.92
	α Coronæ Borealis .	34	0.9	3.2	4.6	15.4	16.4	17.6	18.9	20.0	31.2	32.4	34.7	28 17.75	+ 0.12	40.94	. . . .	13.11
	α Arietis	35	. .	. .	. .	48.3	49.3	50.7	52.0	53.0	3.6	4.9	7.1	58 56.11	— 5.26	41.21	. . . .	14.78
Y. 2	α Arietis	36	34.5	36.6	38.0	48.3	49.4	50.7	51.9	53.0	3.8	4.9	7.0	58 50.74	+ 0.12	41.22	. . . .	14.80
R. 3	α Virginis	37	8.3	10.3	11.6	21.2	22.2	23.4	24.6	25.7	35.3	36.6	38.7	17 23.45	+ 0.11	41.31	13 18 4.87	15.56
	Polaris, S. P. . .	38	58.0	59.0	12.0	23.0	50.0	. .	. .	. .	. .	. .	. .	31 4.40	—22 26.59	41.31	. . . .	. .
	Lacaille 5773 . .	39	24.4	26.6	28.0	38.4	39.5	40.9	42.2	43.3	54.0	55.4	57.5	49 40.93	+ 0.13	41.31	13 50 22.37	16.91
	Lacaille 5812 . .	40	52.3	54.9	56.3	8.2	9.4	10.8	12.3	13.7	25.8	27.8	29.7	57 10.97	0.15	41.32	13 57 52.44	18.14
	* — 26° 33′ . .	41	22.8	24.9	26.4	. .	. .	. .	. .	. .	52.7	54.1	56.3	0 39.53	0.09	41.32	14 1 20.94	17.18
	* — 26° 33′ . .	42	. .	. .	. .	40.8	41.9	43.3	44.6	45.8	. .	. .	. .	0 43.28	0.08	41.32	14 1 24.68	17.19
	50 Hydræ	43	4.2	6.5	7.8	18.5	19.6	20.9	22.3	23.5	34.2	35.5	37.9	4 20.99	0.13	41.32	14 5 2.44	17.25
	α Bootis	44	33.0	35.0	36.4	46.6	47.6	48.8	50.0	51.2	1.5	2.7	4.9	8 48.88	0.11	41.32	14 9 30.31	13.70
	* — 26° 15′ . .	45	5.5	7.5	8.8	19.5	20.7	22.0	23.1	24.5	35.4	36.5	38.7	48 22.02	0.13	41.32	14 49 3.47	17.84
	* — 21° 53′ . .	46	18.4	20.5	21.8	32.2	33.2	34.4	35.7	36.8	47.4	48.5	50.8	57 34.52	+ 0.12	41.32	14 58 15.96	17.41
	O. Arg. S. 14279 .	47	. .	. .	. .	51.0	52.0	53.3	54.6	55.7	6.1	7.3	9.4	59 58.68	— 5.21	41.32	15 0 34.79	17.48
	O. Arg. S. 14349 .	48	48.8	51.0	52.3	2.9	3.9	5.3	6.5	7.7	18.4	19.7	21.9	4 5.31	+ 0.13	41.32	15 4 46.76	17.91
	β Libræ	49	48.2	50.2	51.5	1.1	2.2	3.4	4.5	5.5	15.2	16.6	18.6	9 3.36	+ 0.11	+41.33	15 9 44.80	— 16.28

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
June	1, 12.2	+ 40.88	+ 0.018	+ 0.110
	3, 12.0	+ 41.30	0.008	. .

17. Faint.
32. Through clouds.

June 1–3, . . . n. = s. — 0.01.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 3	Jupiter I	1	52.0	54.0	55.4	..	..	..	..	..	19.9	21.1	23.3	11 7.62	+ 0.08	+41.33	15 11 49.03	..
R.	Jupiter II	2	..	..	..	8.3	9.5	10.7	11.9	13.0	..	..	..	11 10.68	+ 0.17	41.33	15 11 52.18	..
	O. Arg. S. 14554	3	..	..	..	9.3	10.2	11.6	12.8	13.8	24.3	25.7	27.7	18 16.92	— 5.23	41.33	15 18 53.02	— 17.62
	a Cor. Borealis	4	0.6	2.7	4.3	14.9	16.0	17.4	18.7	20.0	30.7	32.1	34.3	28 17.43	+ 0.12	41.33	15 28 58.88	13.11
Y. 4	Sun I	†5	32.9	35.1	36.4	46.7	47.8	49.1	50.3	51.6	1.9	3.2	3.5	49 49.14	..	..	..	..
	Sun II	6	50.0	52.0	53.4	3.7	4.8	6.2	7.5	8.6	18.9	20.2	22.3	52 6.15	..	..	..	..
5	*a* Arietis	7	34.2	36.2	37.6	47.9	49.0	50.3	51.5	52.8	3.0	4.3	6.6	58 50.31	0.12	41.73	..	14.88
R.	Mercury II	8	10.5	12.4	13.8	23.7	24.6	25.9	27.0	28.2	38.3	39.5	41.7	46 25.96	+ 0.12	41.77	3 47 7.85	0.36
	Venus I	†9	8.6	10.2	11.4	12.6	15.1	..	19.5	22.0	23.4	24.7	26.3	10 47.38	— 0.13	41.77	4 11 29.02	..
	Venus II	†10	31.9	34.0	35.4	45.5	46.6	48.0	49.2	50.2	0.6	2.0	4.2	10 47.96	+ 0.12	41.77	4 11 29.85	..
6	Sun I	11	47.0	49.2	50.5	0.8	1.8	3.2	4.6	5.8	16.4	17.5	19.7	58 3.32	0.12	41.79	4 58 45.23	..
	Sun II	12	4.5	6.4	7.8	18.0	19.3	20.7	22.0	23.0	33.4	34.9	36.9	0 20.64	0.12	41.79	5 1 2.55	..
	a Canis Majoris	†13	12.1	14.3	15.5	25.4	26.5	27.7	28.9	30.0	39.8	41.1	43.5	38 27.71	0.13	41.83	6 39 9.67	11.09
	a^2 Geminorum	14	56.7	59.0	0.7	11.7	12.8	14.3	15.7	17.0	28.4	29.7	32.1	25 14.37	0.12	41.84	7 25 56.33	16.55
	a Canis Minoris	15	14.9	16.9	18.3	27.6	28.7	29.9	31.0	32.2	42.0	43.1	45.0	31 29.96	+ 0.12	41.84	7 32 11.92	13.59
Y.	Venus I	16	15.4	16.9	18.1	19.5	21.9	..	26.3	28.9	30.2	31.6	33.1	15 54.19	— 0.14	42.34	4 16 36.39	..
	Venus II	17	38.8	40.9	42.3	52.3	53.4	54.8	55.9	57.2	7.5	8.7	10.9	15 54.79	+ 0.11	42.34	4 16 37.24	..
	a Tauri	18	48.4	49.7	51.0	52.2	54.7	..	57.0	59.4	0.7	2.2	3.5	27 25.77	— 0.01	42.34	4 28 8.10	14.73
		19	10.1	12.1	13.4	23.4	24.5	25.6	26.9	27.9	38.0	39.3	41.2					
7	Sun I	20	54.2	56.3	57.5	7.7	9.0	10.3	11.7	12.8	23.2	24.5	26.7	2 10.35	+ 0.11	42.36	5 2 52.82	..
	Sun II	21	11.3	13.7	15.0	25.3	26.4	27.7	29.0	30.2	41.0	42.0	44.2	4 27.80	0.11	42.36	5 5 10.27	..
	a Canis Majoris	†22	11.6	13.7	15.0	25.2	26.1	27.2	28.3	29.3	39.5	40.7	42.7	38 27.21	0.14	42.40	6 39 9.75	11.09
	a Canis Minoris	23	14.4	16.5	17.7	27.2	28.2	29.3	30.5	31.7	41.5	42.6	44.5	31 29.46	0.12	42.42	7 32 12.00	13.59
	Moon I	†24	52.0	54.1	55.4	5.3	6.5	7.8	9.0	10.2	20.4	21.7	23.8	46 7.84	0.11	42.42	7 46 50.37	..
	Polaris, S. P.	25	0.0	0.0	15.5	27.0	49.0	..	19.0	45.0	54.0	3.0	6.5	8 38.19	+ 1.74	42.55	..	80.15
		26	45.0	24.0	33.5	12.0	32.5	44.5	57.0	14.5	47.0	57.0	36.0					
	η Bootis	†27	54.6	56.0	57.3	58.6	0.9	..	4.6	7.2	8.5	9.8	11.1	47 32.70	— 0.01	42.57	13 48 15.26	14.14
		†28	16.9	19.0	20.2	30.3	31.2	32.5	33.8	34.8	45.0	46.0	48.5					
	Jupiter I	29	10.2	12.0	13.4	23.4	24.5	25.7	26.8	27.9	38.0	39.3	41.3	9 25.68	+ 0.14	42.60	15 10 8.42	..
	Jupiter II	30	51.0	52.3	53.6	54.9	57.4	..	0.3	2.7	3.9	5.3	6.5	9 28.79	— 0.11	42.60	15 10 11.28	..
	μ Bootis	31	22.4	25.0	26.4	38.3	39.8	41.2	42.7	44.2	56.4	57.9	0.3	18 41.33	+ 0.11	42.60	15 19 24.04	11.90
	O. Arg. S. 14687	32	50.9	53.1	54.4	5.2	6.4	7.8	9.0	10.3	21.2	22.4	24.7	28 7.77	0.16	42.61	15 28 50.54	18.50
	Lacaille 6491	33	13.4	15.7	17.3	28.6	29.7	31.1	32.5	33.7	45.0	46.3	48.7	33 31.09	+ 0.17	42.61	15 34 13.87	19.11
	O. Arg. S. 14871	†34	..	..	..	..	..	..	8.0	10.6	11.9	13.5	14.9	39 11.74	— 37.11	42.61	15 39 17.24	18.31
	O. Arg. S. 14925	35	28.0	30.2	31.5	42.2	43.2	44.6	45.9	47.0	57.9	59.1	1.3	41 44.63	+ 0.16	42.61	15 42 27.40	18.40
	δ Scorpii	†36	..	..	..	36.5	37.6	38.9	40.0	41.1	..	..	..	51 38.82	0.20	42.62	15 52 21.64	18.02
	β Scorpii	37	37.3	39.3	40.6	50.7	51.7	53.0	54.2	55.3	5.6	6.8	9.0	56 53.05	0.15	42.62	15 57 35.82	17.72
8	Venus I	38	55.4	57.3	58.5	..	..	..	..	..	24.1	25.3	27.6	26 11.37	+ 0.07	43.05	4 26 54.49	..
	Venus II	39	33.5	34.8	36.0	37.3	39.9	..	44.5	47.1	48.5	49.9	51.3	26 12.28	— 0.14	43.05	4 26 55.19	..
	a Tauri	40	..	..	..	..	..	..	56.5	59.0	0.3	1.6	2.9	27 0.06	— 34.93	43.05	4 27 8.18	14.76
9	Sun I	41	9.8	11.9	13.2	23.5	24.7	26.0	27.2	28.3	38.9	40.2	42.1	10 25.98	+ 0.11	43.03	5 11 9.12	..
	Sun II	42	27.2	29.4	30.7	41.1	42.2	43.4	44.7	45.8	56.5	57.8	59.8	12 43.51	0.11	43.03	5 13 26.65	..
	a^2 Geminorum	43	55.6	57.8	59.4	10.4	11.7	13.1	14.5	15.8	27.2	28.7	31.0	25 13.20	0.11	42.98	7 25 56.29	16.54
	a Canis Minoris	44	13.9	15.9	17.2	26.7	27.7	28.9	30.0	31.1	40.8	41.9	44.0	31 28.92	0.12	42.97	7 32 12.01	13.58
	a Hydræ	45	57.4	59.5	0.8	10.3	11.3	12.5	13.7	14.8	24.4	25.7	27.8	20 12.56	0.13	42.93	9 20 55.62	13.20
	Moon I	46	48.0	50.0	51.4	1.2	2.2	3.4	4.7	5.7	15.5	16.8	18.9	24 3.44	0.11	42.93	9 24 46.48	..
	a Ceti	47	13.0	15.0	16.4	25.9	26.9	28.1	29.2	30.3	40.0	41.2	43.2	54 28.11	+ 0.13	+43.23	..	— 13.59

5. Through thin clouds; steady.
9–10. Usteady.
13. Unsteady.
22. Very unsteady.
24. Faint.
27–28. Faint; through clouds.
34. Faint.
36. Through clouds.

		s.
June 4–6,	n. =	— 0.03.
7,		0.05.
8–9,		0.05.
9, 2h. to 7h.		0.00.
		r.
June 7, 16h. 10m.	Image east	0.12. Clamp east
	Image west	0.29. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
	h. s.	s.	s.
June 6, 5.9	+ 41.81	+ 0.021	+ 0.120
7, 11.4	42.51	+ 0.024	..
9, 7.2	+ 42.98	— 0.025	+ 0.130

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 9		Mercury II	†1	49.3	51.0	52.5	2.2	3.2	4.7	6.0	7.0	17.1	18.4	20.4	51 4.71	+ 0.14	+43.18	3 51 48.03	— 0.33
R.	α	Tauri	†2	9.1	11.2	12.6	22.4	23.5	24.7	25.9	27.1	37.0	38.2	40.4	27 24.74	0.14	43.19	. . . .	14.78
		Venus I	†3	5.2	7.2	8.6	18.8	20.0	21.2	22.5	23.5	33.8	35.3	37.4	31 21.23	+ 0.14	43.19	4 32 4.56	. .
		Venus II	†4	43.3	44.7	46.1	47.5	49.8	. .	55.0	57.0	58.5	59.1	1.6	31 22.26	— 0.11	43.19	4 32 5.34	. .
10		Sun I	†5	17.9	19.8	21.2	31.8	32.8	34.2	35.5	36.6	47.1	48.5	50.3	14 34.15	+ 0.14	43.20	5 15 17.49	. .
		Sun II	†6	35.6	37.7	39.0	49.5	50.6	51.9	53.3	54.3	4.8	6.1	8.2	16 51.91	0.14	43.20	5 17 35.25	. .
	α	Canis Majoris	†7	10.5	13.0	14.3	24.1	25.2	26.3	27.6	28.8	38.7	40.0	42.0	38 26.41	+ 0.14	43.21	. . . .	11.09
Y.	α	Hydræ	8	9.9	10.9	12.0	13.1	14.3	. .	42.7	45.2	46.3	47.5	48.9	20 29.08	— 16.83	43.30	9 20 55.55	13.19
	ε	Leonis	9	9.3	11.5	12.9	23.3	24.4	25.7	27.1	28.2	38.8	40.0	42.3	37 25.77	+ 0.10	43.30	9 37 9.17	15.22
	α	Leonis	10	10.5	12.6	13.9	23.5	24.6	25.8	27.0	28.1	38.0	39.1	41.3	0 25.85	+ 0.11	43.31	10 1 9.27	14.44
		Moon I	†11	. .	. .	. .	36.3	37.4	38.5	39.7	40.7	50.6	51.9	53.9	10 43.62	— 4.96	43.31	10 11 21.97	. .
	γ	Leonis	12	. .	. .	. .	. .	. .	. .	18.9	21.4	22.6	24.0	25.4	12 22.46	— 35.83	43.31	10 12 29.94	14.98
	θ	Virginis	13	58.8	0.9	2.1	11.6	12.6	13.8	15.0	16.0	25.7	26.8	29.0	2 13.85	+ 0.14	43.34	13 2 57.33	15.15
		Polaris, S. P.	†14	14.0	32.0	45.0	58.0	13.0	. .	21.0	44.0	53.0	3.0	4.0	57 22.70	11 18.63	43.34	. . . .	. .
	α	Virginis	15	6.2	8.2	9.4	. .	20.1	21.3	22.6	. .	33.3	34.4	36.5	17 21.33	0.14	43.34	13 18 4.81	15.51
R		B. A. C. 5281	16	48.2	50.2	51.5	1.8	2.8	4.2	5.4	6.6	16.8	18.0	20.1	49 4.15	0.17	43.31	15 49 47.63	17.82
	δ	Scorpii	17	22.0	24.1	25.5	35.8	36.8	38.1	39.3	40.4	50.8	52.3	54.2	51 38.12	0.18	43.32	15 52 21.62	18.03
	δ	Ophiuchi	18	18.4	20.2	21.4	30.9	32.0	33.2	34.4	35.4	45.1	46.2	48.3	6 33.23	0.14	43.32	16 7 16.70	16.00
Y. 11		Sun I	†19	26.2	28.3	29.6	40.0	41.0	42.2	43.4	44.7	55.5	56.5	58.7	18 42.37	0.15	43.46	5 19 25.98	. .
		Sun II	†20	43.9	45.8	. .	57.7	58.7	0.1	1.4	2.5	. .	14.4	16.4	20 0.10	0.16	43.46	5 20 43.72	. .
	α	Canis Majoris	†21	10.5	12.4	13.8	23.7	24.8	26.1	27.4	28.6	38.5	39.5	41.7	38 26.09	0.13	43.48	. . . .	11.09
12	δ	Leonis	†22	31.9	33.4	34.7	36.0	38.5	. .	. .	. .	. .	. .	. .	5 34.90	+ 35.75	43.58	. . . .	14.71
	α	Ceti	23	25.6	26.5	27.7	28.8	29.9	. .	57.9	0.3	1.6	2.8	4.0	54 44.51	— 16.70	43.71	. . . .	13.66
R.		Mercury II	†24	. .	. .	. .	. .	. .	. .	4.9	7.4	8.5	9.7	11.2	58 8.34	35.01	43.57	3 58 16.90	— 0.31
13		Sun I	†25	. .	. .	. .	57.8	58.7	0.1	1.4	2.5	13.1	14.3	16.4	27 5.54	5.25	43.60	5 27 43.89	+ 68.85
	α	Canis Majoris	†26	. .	. .	. .	23.5	24.5	25.9	27.2	28.4	38.2	39.5	41.7	38 31.11	— 5.01	43.62	6 39 9.72	— 11.10
	β	Geminorum	27	59.8	2.0	3.6	14.2	15.3	16.7	18.1	19.3	30.0	31.4	33.9	36 16.75	+ 0.17	43.63	7 37 0.55	15.90
	β	Leonis	†28	10.0	12.0	13.4	23.2	24.2	25.5	26.7	27.8	37.8	39.0	41.2	41 25.53	0.15	43.71	11 42 9.39	14.34
		Moon I	29	36.5	38.5	39.8	49.7	50.7	51.9	53.1	54.2	4.2	5.3	7.4	29 51.94	0.14	43.72	12 30 35.80	. .
	γ^1	Virginis	30	49.9	51.8	53.1	2.5	3.6	4.8	6.0	7.0	16.5	17.7	19.9	34 4.80	+ 0.14	43.72	12 34 48.66	14.81
	γ^2	Virginis	31	29.0	30.3	31.5	32.8	35.0	. .	35.1	37.5	38.7	40.0	41.3	34 5.12	— 0.10	43.72	12 34 48.74	14.81
		Polaris, S. P.	32	. .	. .	. .	. .	. .	. .	26.0	50.0	59.5	7.5	13.0	46 7.20	+22 36.28	43.73	. . . .	84.77
	ψ	Bootis	33	39.1	41.1	42.7	53.3	54.6	55.8	57.3	58.5	9.6	10.7	13.2	57 56.03	0.16	43.77	14 58 39.96	13.12
		O. Arg. S. 14311	34	19.8	21.9	23.3	33.7	35.1	36.4	37.8	38.9	49.5	50.8	52.9	1 36.37	+ 0.15	43.77	15 2 20.29	17.95
		O. Arg. S. 14366	35	30.2	31.7	33.2	34.6	37.4	.	43.8	46.3	47.6	49.1	50.6	5 10.45	— 0.10	43.77	15 5 54.12	17.97
		* — 25° 25′	36	56.9	58.9	0.4	. .	. .	. .	. .	. .	26.5	27.7	29.8	5 13.37	+ 0.11	43.77	15 5 57.25	17.95
		Jupiter I	†37	. .	. .	. .	5.6	6.6	7.8	9.0	10.2	. .	. .	. .	7 7.84	+ 0.19	43.77	15 7 51.80	. .
		Jupiter II	†38	. .	. .	. .	23.5	24.7	26.6	42.5	45.0	46.4	47.6	48.9	7 38.15	— 26.98	43.77	15 7 54.94	. .
		O. Arg. S. 14533	39	31.9	34.2	35.5	46.3	47.5	48.9	50.2	51.4	2.1	3.4	5.7	16 48.83	+ 0.15	43.78	15 17 32.76	18.35
	μ	Bootis	40	. .	. .	. .	54.9	56.3	59.0	18.3	21.5	23.2	24.5	26.2	19 12.99	— 32.77	43.78	15 19 24.00	11.86
14	γ^1	Virginis	41	49.7	51.7	53.0	2.3	3.3	4.6	5.7	6.8	16.4	17.7	19.7	34 4.63	+ 0.14	43.77	12 34 48.54	14.80
	γ^2	Virginis	42	28.8	30.2	31.4	32.6	35.0	. .	35.0	37.3	38.6	39.8	41.2	34 4.99	— 0.10	43.77	12 34 48.66	14.80
		Polaris, S. P.	43	. .	. .	. .	22.0	41.0	54.0	6.0	22.5	. .	. .	. .	8 53.10	9.21	43.77	. . . .	. .
		Moon I	†44	21.5	22.9	24.0	25.3	27.9	. .	. .	. .	. .	. .	. .	18 24.32	34.77	43.78	13 19 42.87	. .
		Jupiter I	45	9.5	10.9	12.0	13.3	15.8	. .	18.3	20.8	22.2	23.6	24.8	6 47.12	— 0.12	43.75	15 7 30.75	. .
		Jupiter II	46	34.5	36.5	37.8	47.9	48.9	50.2	51.4	52.5	2.5	3.8	5.9	6 50.17	+ 0.13	43.75	15 7 34.05	. .
		O. Arg. S. 14466	47	40.9	42.8	44.3	54.5	55.9	57.2	58.5	59.7	10.3	11.6	13.8	11 57.25	0.14	43.74	15 12 41.13	18.04
		O. Arg. S. 14533	48	31.9	34.0	35.8	46.2	47.5	48.7	50.0	51.2	2.2	3.7	5.8	16 48.82	0.14	43.74	15 17 32.70	18.36
		O. Arg. S. 14548	49	40.5	42.6	44.0	54.8	56.0	57.3	58.7	59.8	10.5	11.9	14.3	17 57.31	+ 0.14	+43.74	15 18 41.19	— 18 35

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 10, 11.1	+ 43.32	+ 0.011	+ 0.130
11, 6.7	43.48	0.015	. .
12, 11.3	43.70	+ 0.018	0.140
14, 15.6	+ 43.74	— 0.010	+ 0.140

1. Very faint.
2. Very unsteady.
3–4. Exceedingly unsteady.
5–6. Badly defined and unsteady.
7. Very unsteady.
11. Through clouds.
14. Set E observed by Rogers.
19–20–21. Unsteady.

		s.
June	10, 2h. to 7h. n.	= — 0.00.
	9h. to 17h.	— 0.09.
11–13		+ 0.01.
14		+ 0.04.

22. Through clouds.
24. Very faint.
25. Through clouds.
26. Very unsteady.
28. Through clouds.
37–38. Through haze.
44. Serrated, vibrating, through dense clouds.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 14	Lacaille 6409 . .	1	23.0	25.5	26.9	38.3	39.5	40.8	42.2	43.5	54.9	56.4	58.6	22 40.87	+ 0.14	+43.74	15 23 24.75	— 19.07
R.	*α* Coronæ Borealis .	2	58.0	0.2	1.8	12.2	13.3	14.7	16.0	17.1	28.2	29.5	31.7	28 14.79	0.18	43.74	. . . .	13.08
	Lacaille 6471 . .	3	7.4	9.9	11.6	23.8	25.0	26.5	28.3	29.7	42.0	43.6	46.3	31 26.75	0.15	43.74	15 32 10.64	20.32
	α Serpentis . . .	4	38.4	40.5	41.7	51.4	52.4	. .	54.8	55.8	5.6	6.7	8.7	36 53.60	0.14	43.74	. . . .	15.01
	α Ceti	5	12.4	14.2	15.5	25.0	26.2	27.3	28.5	29.6	39.2	40.3	42.5	54 27.34	0.14	44.08	2 55 11.56	13.70
	Mercury II . . .	6	2.1	4.3	5.5	15.5	16.6	17.9	19.2	20.2	30.3	31.7	33.7	3 17.91	0.17	44.09	4 4 2.17	0.29
	α Tauri	†7	8.3	10.6	11.7	21.8	23.0	24.1	25.3	26.4	36.4	37.6	39.6	27 24.07	+ 0.17	44.10	4 28 8.34	14.86
	Venus I	†8	47.6	48.7	50.2	51.5	54.2	. .	59.2	1.7	3.0	4.6	5.7	57 26.64	— 0.07	44.10	4 58 10.67	. .
	Venus II	†9	10.8	13.3	14.7	24.9	26.0	27.2	28.4	29.5	39.9	41.5	43.8	57 27.27	+ 0.18	44.10	4 58 11.55	. .
15	Sun I	†10	. .	. .	. .	15.6	16.7	17.9	19.2	20.5	31.0	32.2	34.6	35 23.46	— 5.23	44.11	5 36 2.34	. .
	Sun II	†11	19.6	21.8	23.2	33.5	34.5	35.8	37.3	38.4	48.9	50.2	52.5	37 35.98	+ 0.18	44.11	5 38 20.27	. .
	a^2 Geminorum . .	†12	54.4	56.6	58.1	9.1	10.4	11.7	13.1	14.6	26.0	27.4	29.6	25 11.91	0.21	44.14	7 25 56.26	16.54
	α Canis Minoris . .	†13	12.6	14.5	15.7	25.4	26.4	27.6	28.8	29.9	39.5	40.7	42.7	31 27.62	0.15	44.14	7 31 11.91	13.58
	β Geminorum . .	†14	59.1	1.5	3.0	13.8	14.9	16.3	17.6	. .	29.5	31.1	33.3	36 16.01	0.45	44.14	7 37 0.60	15.90
	γ^1 Virginis	15	49.4	51.3	52.6	2.0	3.0	4.2	5.3	6.4	16.1	17.3	19.3	34 4.26	+ 0.14	44.20	12 34 48.60	14.79
	γ^2 Virginis	16	28.5	29.8	31.0	32.2	34.5	. .	34.5	36.9	38.2	39.5	40.8	34 4.59	— 0.10	44.20	12 34 48.69	14.79
	Polaris, S. P. . .	†17	. .	. .	. .	. .	. .	. .	30.0	53.0	1.5	12.0	17.5	46 10.80	+22 33.80	44.21	. . . .	86.59
	Moon I	†18	. .	. .	. .	3.4	4.5	6.5	22.7	25.1	26.4	27.7	29.3	11 18.20	— 27.51	44.22	14 11 34.91	. .
	ρ Bootis	19	59.0	11.2	2.6	13.7	15.0	16.3	17.7	18.9	30.2	31.6	33.9	25 16.37	+ 0.20	44.23	14 26 0.80	13.00
	8 Libræ	20	51.9	53.4	54.6	55.9	58.2	. .	0.3	2.8	4.3	5.6	7.0	42 39.40	— 0.12	44 23	14 43 13.51	16.69
	α Libræ	21	25.1	27.0	28.5	38.2	39.3	40.4	41.6	42.8	52.9	54.1	56.3	42 40.56	+ 0.13	44.23	14 43 24.92	16.65
	Jupiter I . . .	22	10.9	12.8	14.1	23.8	24.9	26.1	27.5	28.6	38.5	39.9	42.0	6 26.28	+ 0.13	44.24	15 7 10.65	. .
	Jupiter II . . .	23	52.0	53.4	54.7	56.0	58.3	. .	1.0	3.4	4.8	6.1	7.5	6 29.72	— 0.12	44.24	15 7 13.84	. .
	μ Bootis	24	20.8	23.1	24.6	36.8	38.0	39.4	41.0	42.4	54.4	56.0	58.6	18 39.56	+ 0.23	44.24	15 19 24.03	11.85
	Weisse (2) 414 . .	25	55.3	57.2	58.7	0.2	3.2	. .	19.1	22.1	23.8	25.4	27.0	18 41.20	— 0.07	44.24	15 19 25.37	11.89
	Mercury II . . .	26	19.0	20.8	22.3	32.2	33.3	34.6	35.7	36.8	47.0	48.3	50.5	6 34.59	+ 0.16	44.33	4 7 19.08	0.29
	α Tauri	27	8.3	10.3	11.6	21.4	22.6	23.7	24.9	26.0	35.9	37.5	39.5	27 23.79	+ 0.16	44.34	4 27 8.29	14.88
	Venus I	28	2.9	4.5	5.8	6.9	9.5	. .	14.7	17.2	18.7	20.0	21.5	2 42.17	— 0.09	44.35	5 3 26.43	. .
	Venus II	29	26.6	28.6	29.9	40.2	41.4	42.8	44.0	45.2	55.4	56.8	59.1	2 42.73	+ 0.17	44.35	5 3 27.25	. .
16	Sun I	30	10.5	12.9	14.1	24.6	25.7	27.1	28.3	29.4	40.0	41.4	43.5	39 27.05	0.18	44.35	5 40 11.58	. .
	Sun II	31	28.7	30.7	32.1	42.5	43.5	44.8	46.1	47.3	58.0	59.1	1.4	41 44.93	0.18	44.35	5 42 29.46	. .
	α Canis Majoris . .	†32	9.5	11.7	13.0	23.0	24.0	25.2	26.5	27.5	37.7	38.8	41.1	38 25.27	+ 0.13	44.36	6 39 9.76	11.11
	Polaris, S. P. . .	33	. .	. .	. .	24.0	44.0	54.0	7.5	25.0	. .	. .	. .	8 54.90	— 9.63	44.64	. . . .	. .
	α Virginis	34	4.9	6.8	8.0	17.7	18.8	20.0	21.2	22.2	32.0	33.2	35.3	17 20.01	+ 0.13	44.64	13 18 4.78	15.47
	Moon I	35	45.5	47.7	48.9	59.0	0.0	1.5	2.8	3.9	14.5	15.7	17.8	6 1.57	0.19	44.63	15 6 46.39	. .
	β Libræ	36	45.0	47.0	48.3	57.7	58.9	0.1	1.3	2.4	12.1	13.3	15.3	9 0.13	0.16	44.63	15 9 44.92	16.27
	O. Arg. S. 14531 .	37	6.8	8.8	10.3	20.5	21.6	22.8	24.0	25.1	35.5	36.8	39.1	16 22.85	0.21	44.62	15 17 7.68	17.64
	ζ^1 Libræ	38	38.7	40.8	42.0	52.0	53.0	54.3	55.5	56.6	6.7	7.9	10.0	19 54.32	0.19	44.62	15 20 39.13	17.11
	* — 23° 11′ . .	39	10.5	12.8	14.1	24.3	25.5	27.0	28.1	29.3	39.7	40.9	43.2	22 26.85	+ 0.21	44.62	15 23 11.68	17.89
	Lacaille 6415 . .	40	. .	. .	. .	39.1	40.5	43.2	2.8	5.9	7.4	9.2	10.8	24 57.36	— 33.46	44.62	15 25 8.52	20.22
	γ Libræ	41	58.7	0.8	2.0	11.8	12.9	14.0	15.4	16.4	26.2	27.4	29.7	27 14.12	+ 0.18	44.62	15 27 58.92	16.97
	ε Serpentis . . .	42	5.7	7.8	9.1	18.6	19.6	20.9	22.0	23.0	32.6	33.7	35.8	43 20.80	+ 0.13	44.62	15 44 5.55	15.18
	B. A. C. 5281 . .	43	. .	. .	. .	0.2	1.4	2.7	4.0	5.1	15.5	16.8	19.0	49 8.09	— 5.10	44.62	15 49 47.61	17.83
	O. Arg. S. 15072 .	44	37.1	39.2	40.4	50.4	51.6	53.0	54.1	55.3	5.7	6.9	9.2	49 52.99	+ 0.20	44.62	15 50 37.81	17.83
	B. A. C. 5308 . .	45	16.4	18.5	20.1	31.1	32.3	33.6	34.8	36.2	47.1	48.6	50.9	53 33.60	0.24	44.62	15 54 18.46	18.93
	O. Arg. S. 15194 .	46	30.1	32.4	33.7	44.0	45.2	46.5	47.8	48.9	59.4	0.6	2.8	56 46.49	0.22	44.62	15 57 31.33	18.30
	B. A. C. 5364 . .	47	0.2	2.3	3.7	14.3	15.4	16.9	18.2	19.3	30.1	31.3	33.8	1 16.86	0.23	44.62	16 2 1.71	18.69
	B. A. C. 5394 . .	48	37.8	40.0	41.4	. .	. .	. .	. .	. .	7.2	8.3	10.5	4 54.20	+ 0.18	44.62	16 5 39.00	18.39
	δ Ophiuchi . . .	49	. .	. .	. .	47.0	. .	. .	2.2	4.5	5.8	7.2	8.5	7 2.53	— 30.44	44.62	16 7 16.71	16.02
	O. Arg. S. 15566 .	50	47.2	49.3	50.7	0.0	2.2	3.5	4.9	5.9	16.3	17.7	19.8	14 3.50	+ 0.15	+44.62	16 14 48.27	— 18.29

7. Faint and unsteady.
8–9. Unsteady.
10. Very badly defined.
11. Better.
12–13–14. Unsteady.
17. Steady.
18. Through dense clouds.
32. Unsteady.

		s.
June 15,	. . . n. =	+ 0.07.
15–16,	4h. to 14h.	+ 0.05.
16,	15h. to 18h.	— 0.14.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*e.*
	h.	s.	s.
June 15,	9.3	+ 44.16	+ 0.013	0.140
	5.6	44.35	+ 0.009	. .
16,	15.7	+ 44.62	— 0.010	+ 0.150

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	's.
June 16	B. A. C. 5476	1	17.9	20.2	21.6	32.6	33.6	35.1	36.4	37.6	. .	. .	. .	16 29.38	+ 5.97	—44.61	16 17 19.96	— 19.26
R.	O. Arg. S. 15643	2	. .	. .	. .	16.1	17.4	18.7	20.1	21.3	32.2	33.9	36.0	18 24.46	— 5.43	44.61	16 19 3.64	19.18
	O. Arg. S. 15659	3	. .	. .	. .	18.6	19.8	22.0	38.9	41.5	42.8	44.1	45.6	20 34.16	— 28.31	44.61	16 20 50.46	18.52
	O. Arg. S. 15694	4	11.2	13.4	15.0	. .	. .	. .	. .	. .	42.0	43.2	45.8	22 28.43	+ 0.19	44.61	16 23 13.23	19.30
	O. Arg. S. 15783	5	13.8	15.8	17.2	27.3	28.5	. .	31.0	32.2	42.8	44.0	46.2	29 29.88	0.20	44.61	16 30 14.69	18.26
	O. Arg. S. 15804	6	42.0	44.2	45.7	56.6	57.7	59.0	0.4	1.5	12.7	14.0	16.2	30 59.09	0.24	44.61	16 31 43.94	19.03
	ζ Herculis	7	10.2	12.6	13.8	25.3	26.4	28.0	29.4	30.4	41.9	43.3	45.7	35 27.91	0.08	44.61	16 36 12.60	12.09
	O. Arg. S. 15950	8	25.8	27.9	29.6	40.2	41.5	42.7	44.1	45.4	56.3	57.6	59.9	38 42.82	0.24	44.61	16 39 27.67	19.28
	O. Arg. S. 16043	9	26.4	28.4	29.8	39.8	40.9	42.3	43.5	44.6	54.6	55.8	58.0	43 42.19	0.20	44.61	16 44 27.00	17.98
	O. Arg. S. 16076	10	59.6	1.7	3.0	13.0	14.1	15.4	16.8	17.8	. .	. .	. .	45 10.18	5.48	44.61	16 46 0.27	17.98
	O. Arg. S. 16256	11	23.3	25.3	26.6	36.7	37.8	39.1	40.3	41.4	51.6	52.8	55.0	54 39.08	0.20	44.61	16 55 23.89	18.04
	Weisse 46	12	35.0	37.0	38.2	47.9	49.0	50.0	51.2	52.5	2.0	3.0	5.2	3 50.09	0.15	44.61	17 4 34.85	16.30
	B. A. C. 5833	13	32.2	34.5	36.0	47.0	48.2	49.7	51.1	52.4	3.7	5.0	7.4	9 49.75	+ 0.25	44.61	17 10 34.61	19.83
	Weisse 186	14	. .	. .	. .	. .	. .	. .	35.2	37.6	38.9	40.1	41.5	11 38.60	— 33.59	44.61	17 11 49.62	16.28
	B. A. C. 5868	15	. .	. .	. .	. .	. .	. .	40.1	42.7	44.0	45.3	46.8	16 43.78	— 36.65	44.60	17 16 51.73	18.76
	b Ophiuchi	16	7.0	9.0	10.4	20.9	21.9	23.3	24.6	25.7	36.3	37.6	39.9	17 33.33	+ 0.22	44.60	17 18 8.15	18.75
	δ Ursæ Minoris	†17	. .	. .	. .	58.0	20.0	51.0	8.0	49.0	10.5	32.0	53.0	22 57.69	— 7 19.42	44.60	. . . .	67.79
	α Tauri	18	7.7	9.9	11.4	20.9	22.1	23.3	24.5	25.6	35.7	36.9	39.1	27 23.37	+ 0.17	44.81	4 28 8.35	14.88
	Venus I	19	41.7	43.9	45.4	55.6	56.6	58.0	59.2	0.4	10.9	12.1	14.3	7 58.01	+ 0.17	44.82	5 8 43.00	. .
	Venus II	20	19.7	21.4	22.5	23.6	26.3	. .	31.7	34.2	35.7	37.0	38.4	7 59.05	— 0.08	44.82	5 8 43.79	. .
17	Sun I	21	19.5	21.8	23.1	33.5	34.6	35.9	37.3	38.4	48.9	50.2	52.4	43 35.96	+ 0.17	44.84	5 44 20.97	. .
	Sun II	22	37.6	39.8	41.2	51.5	52.6	53.9	55.2	56.4	6.7	8.1	10.3	45 53.94	0.17	44.84	5 46 38.95	. .
	α Canis Majoris	23	9.1	11.1	12.4	22.3	23.5	24.8	25.8	26.9	36.8	38.2	40.5	38 24.67	+ 0.15	44.87	6 39 9.69	11.11
	α Canis Minoris	†24	. .	. .	. .	38.8	40.0	42.0	57.2	59.6	1.0	2.2	3.5	31 53.04	— 25.99	44.90	7 32 11.95	13.58
	Polaris, S. P.	25	. .	. .	. .	24.0	43.5	55.0	6.0	25.0	. .	. .	. .	8 54.70	— 8.79	45.07	. . . .	88.55
	α Virginis	26	4.3	6.3	7.6	17.2	18.2	19.4	20.6	21.8	31.5	32.6	34.8	17 19.48	+ 0.15	45.08	13 18 4.71	— 15.46
	Jupiter I	27	. .	. .	. .	. .	. .	. .	18.2	20.6	21.9	23.1	24.4	6 21.64	— 34.88	45.13	15 6 31.89	+ 1.89
	β Libræ	28	44.4	46.3	47.7	57.3	58.3	59.4	0.6	1.8	11.6	12.8	14.8	8 59.55	+ 0.17	45.13	15 9 44.85	— 16.27
	O. Arg. S. 14636	29	3.4	5.5	6.9	17.6	18.5	19.9	21.1	22.4	33.0	34.3	36.6	24 19.93	0.21	45.14	15 25 5.28	18.16
	γ Libræ	30	58.1	0.2	1.5	11.2	12.3	13.6	14.8	15.9	25.8	26.9	29.0	27 13.58	0.18	45.14	15 27 58.90	16.97
	O. Arg. S. 14839	31	45.6	47.8	49.0	59.2	0.4	1.8	3.0	4.0	14.5	15.8	18.1	37 1.75	0.20	45.15	15 37 47.10	17.93
	O. Arg. S. 14933	32	50.3	52.5	53.9	4.4	5.5	6.9	8.2	9.5	20.0	21.5	23.6	42 6.94	0.21	45.15	15 42 52.30	18.36
	Moon I	33	23.6	25.6	27.0	37.8	38.8	40.1	41.5	42.6	53.3	54.4	56.7	4 40.13	0.20	45.17	16 5 25.50	. .
	δ Ophiuchi	34	16.5	18.5	19.7	29.2	30.2	31.4	32.5	33.6	43.2	44.5	46.5	6 31.44	0.16	45.17	16 7 16.77	16.02
	σ Scorpii	35	57.8	0.0	1.3	11.7	12.8	14.2	15.6	16.7	27.4	28.8	30.9	12 14.29	0.21	45.17	16 12 59.67	18.61
	α Scorpii	36	6.5	8.7	10.0	20.7	21.8	23.2	24.4	25.5	36.4	37.6	39.9	20 23.15	+ 0.22	45.17	16 21 8.54	18.78
18	Sun I	37	. .	. .	. .	57.7	59.2	1.3	17.9	20.5	21.8	23.3	24.8	48 13.31	— 28.44	. .	. . . .	. .
	Sun II	38	46.4	48.5	49.9	0.4	1.5	2.8	4.0	5.2	. .	. .	. .	49 57.34	+ 5.45	. .	. . . .	. .
	Jupiter I	39	50.3	51.8	53.0	54.1	56.6	. .	59.1	1.6	3.0	4.5	5.7	5 27.97	— 0.06	45.74	15 6 13.65	. .
	Jupiter II	40	15.3	17.4	18.5	28.5	29.6	30.8	31.9	33.1	43.2	44.4	46.5	5 30.84	+ 0.19	45.74	15 6 16.77	. .
	β Libræ	41	44.0	45.8	47.0	56.9	57.9	59.0	0.2	1.3	10.7	12.0	14.2	8 59.00	0.17	45.74	. . . .	16.26
	σ Scorpii	42	57.2	59.4	0.6	11.0	12.3	13.7	14.9	16.1	26.8	28.1	30.3	12 13.67	0.21	45.77	16 12 59.65	18.61
	α Scorpii	43	5.9	8.2	9.6	19.9	21.0	22.4	23.8	25.0	35.6	37.0	39.2	20 22.51	+ 0.22	45.78	. . . .	18.79
	η Ophiuchi	†44	37.4	39.4	40.7	5.2	6.3	8.5	24.5	26.7	28.0	29.3	30.7	2 8.79	— 15.72	45.79	17 3 38.86	— 17.60
	Moon I	†45	58.2	0.4	1.8	12.2	13.4	14.7	16.0	17.1	27.8	29.2	31.2	6 14.73	+ 0.20	—45.79	17 7 0.72	. .
19	Moon II	†46	40.3	42.4	43.8	54.3	55.5	56.7	58.0	59.2	9.9	11.1	13.4	11 56.78	. .	. .	. . . .	. .
20	Sun I	†47	46.0	48.0	49.6	59.9	1.0	2.4	3.6	4.8	15.3	16.5	18.8	56 2.35	. .	. .	. . . .	. .
	Sun II	†48	3.9	5.8	7.3	17.8	18.9	20.2	21.5	22.5	33.2	34.4	36.7	58 20.20	. .	. .	. . . .	. .
	Jupiter I	49	35.8	37.7	39.1	49.0	49.9	51.2	52.6	53.6	3.6	4.8	6.8	4 51.28	+ 0.21	+47.11	15 5 38.60	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 17, 11.4	+ 45.02	+ 0.031	+ 0.150
18, 15.8	45.76	0.026	. .
20, 17.7	+ 47.14	+ 0.011	+ 0.150

17. Blurred.
24. Through clouds.
44. Very faint.
45. Just visible.
46. Through thick clouds.
47–48. Through clouds.

r.
June 16, 17h. 40m. Image east 0.22. Clamp east.
June 17. Hazy; stars faint.
June 18. Very hazy.

s.
June 16–17, 4h. to 14h. n. = + 0.02.
15h. to 17h. — 0.10.
18, . . . 0.10.
20, . . . 0.19.
20–21, 5h. to 8h. — 0.10.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 20	Jupiter II	1	17.0	18.4	19.7	20.8	23.3	..	25.8	28.2	29.8	31.0	32.3	4 54.63	— 0.04	+47.11	15 5 41.70	..
R.	β Libræ	2	42.4	44.5	45.8	55.4	56.4	57.6	59.0	0.0	7.4	10.9	12.8	8 57.65	+ 0.18	47.11	15 9 44.94	— 16.26
	O. Arg. S. 14871	3	13.3	15.5	16.9	27.5	28.6	29.9	31.4	32.6	43.1	44.3	46.6	38 29.97	+ 0.26	47.12	15 39 17.35	18.33
	O. Arg. S. 14878	4	..	..	..	15.1	16.4	18.8	35.5	38.1	39.5	40.9	42.5	39 30.85	— 28.57	47.12	15 39 49.40	18.35
	ε Serpentis	5	3.3	5.2	6.6	16.0	17.0	18.2	19.4	20.5	30.0	31.3	33.4	43 18.26	+ 0.13	47.12	15 44 5.51	15.21
	*—21° 49′	6	51.0	53.3	54.7	4.9	5.9	7.3	8.6	9.7	20.0	21.3	23.6	48 7.30	0.24	47.12	15 48 54.66	17.96
	B. A. C. 5296	7	12.2	14.4	15.8	26.7	27.9	29.3	30.6	31.8	43.0	44.3	46.8	50 29.35	0.28	47.12	15 51 16.75	19.03
	O. Arg. S. 15147	8	49.9	52.0	53.4	3.9	5.0	6.3	7.5	8.7	19.2	20.5	22.9	54 6.30	0.25	47.12	15 54 53.67	18.27
	O. Arg. S. 15205	9	0.2	2.5	3.8	14.0	15.2	16.5	17.7	19.0	29.5	30.7	33.0	57 16.55	0.25	47.12	15 58 3.92	18.23
	O. Arg. S. 15271	10	33.2	35.4	36.9	47.6	48.8	50.3	51.8	52.9	4.0	5.4	7.7	59 50.36	+ 0.28	47.12	16 0 37.76	19.16
	O. Arg. S. 15359	11	..	..	..	39.4	40.9	43.1	0.8	3.6	5.0	6.5	8.2	3 55.94	— 29.68	47.12	16 4 13.38	19.17
	O. Arg. S. 15388	12	19.5	21.8	23.3	34.1	35.3	36.8	38.3	39.5	50.5	51.9	54.3	4 36.85	+ 0.28	47.12	16 5 24.25	19.19
	O. Arg. S. 15452	13	22.5	24.7	25.9	36.9	38.0	39.5	41.0	42.2	53.1	54.5	56.9	7 39.56	0.28	47.12	16 8 26.96	19.16
	O. Arg. S. 15566	14	44.8	46.8	48.4	58.8	59.8	1.2	2.4	3.4	13.8	15.0	17.4	14 1.07	0.24	47.12	16 14 48.43	18.30
	B. A. C. 5476	15	15.5	17.9	19.1	30.0	31.5	32.7	34.0	35.4	46.5	47.7	49.9	16 32.75	0.28	47.12	16 17 20.15	19.27
	O. Arg. S. 15643	16	59.3	1.5	3.0	13.9	15.0	16.4	17.8	19.0	30.0	31.4	33.5	18 16.44	+ 0.28	47.12	16 19 3.84	19.19
	O. Arg. S. 15659	17	..	..	..	16.4	17.7	19.7	36.2	39.0	40.3	41.8	43.3	20 31.80	— 28.28	47.12	16 20 50.64	18.53
	O. Arg. S. 15783	18	11.1	13.3	14.8	25.0	26.0	27.5	28.7	29.8	40.2	41.5	43.7	29 27.42	+ 0.24	47.13	16 30 14.79	18.38
	O. Arg. S. 15804	19	..	..	..	54.0	55.2	56.6	58.0	59.2	10.2	11.4	13.7	31 2.29	— 5.37	47.13	16 31 44.05	19.25
	O. Arg. S. 15881	20	36.4	38.5	39.8	49.6	51.0	52.3	53.6	54.7	4.8	6.2	8.5	34 52.31	+ 0.23	47.13	16 35 39.67	18.12
	O. Arg. S. 16043	21	23.8	25.9	27.4	37.0	38.4	39.7	41.0	42.1	52.1	53.6	55.6	43 39.69	0.22	47.13	16 44 27.04	18.00
	O. Arg. S. 16076	22	57.3	59.4	0.6	10.7	11.8	13.1	14.3	15.4	25.5	26.9	29.0	45 13.09	0.22	47.13	16 46 0.44	18.00
	κ Ophiuchi	23	14.9	16.9	18.2	27.8	28.8	30.0	31.3	32.2	42.0	43.2	45.4	50 30.06	0.12	47.13	16 51 17.31	14.69
	O. Arg. S. 16233	24	59.5	1.7	3.0	13.1	14.2	15.4	16.6	17.8	28.3	29.6	31.8	53 15.55	0.23	47.13	16 54 2.91	18.20
	O. Arg. S. 16302	25	22.1	24.3	25.6	36.4	37.5	39.0	40.4	41.5	52.5	53.7	56.2	56 39.02	0.28	47.13	16 57 26.43	19.40
	Weisse 46	26	32.7	34.6	35.9	45.5	46.4	47.8	49.0	50.0	59.8	0.7	2.9	3 47.75	0.17	47.13	17 4 35.05	16.33
	B. A. C. 5833	27	30.0	32.3	33.7	44.8	45.9	47.2	48.7	50.0	1.1	2.6	4.8	9 47.37	0.29	47.13	17 10 34.79	19.86
	*—22° 52′	28	0.0	2.2	3.6	13.9	14.9	16.2	17.7	18.8	29.1	30.5	32.6	14 16.32	0.24	47.13	17 15 3.69	18.61
	O. Arg. S. 16844	29	43.2	45.4	46.5	56.8	57.8	59.0	0.2	1.5	11.6	12.7	15.0	20 59.06	0.22	47.14	17 21 46.42	18.15
	B. A. C. 6279	30	27.7	29.9	31.0	40.9	41.9	43.2	44.5	45.6	55.4	56.5	58.6	20 43.20	+ 0.20	47.15	17 21 30.55	17.55
	B. A. C. 6284	31	..	..	..	15.6	16.6	17.7	18.9	20.0	30.0	31.6	33.3	21 22.96	— 4.92	47.15	18 22 5.19	17.55
	1 Aquilæ	32	49.6	51.7	52.8	2.4	3.4	4.7	5.9	6.1	16.6	17.8	20.0	27 4.64	+ 0.18	47.15	18 27 51.97	16.78
	51 Cephei, S. P.	†33	..	..	..	34.0	12.0	46.0	20.0	56.0	..	..	..	34 45.60	— 0.16	47.15	..	114.41
	σ Sagittarii	34	49.9	52.2	53.6	4.0	5.2	6.7	8.1	9.1	20.0	21.2	23.3	46 6.66	+ 0.26	47.15	18 46 54.07	19.04
	Dorpat 2417 (1st *)	35	7.7	8.9	10.0	11.3	13.7	..	14.0	16.5	17.7	19.0	20.3	48 43.91	— 0.10	47.15	18 49 30.96	15.42
	Dorpat 2417 (2d *)	36	30.2	32.0	33.4	43.0	44.0	45.2	46.3	47.5	57.1	58.5	0.3	48 45.23	+ 0.14	47.15	18 49 32.52	15.42
	Dorpat 2425, S^{d}.	37	50.6	52.0	53.2	54.6	56.8	..	57.6	59.8	1.2	2.5	3.7	52 27.20	— 0.06	47.15	18 53 14.29	16.74
	Dorpat 2425, N^{d}.	38	11.9	13.6	15.3	24.6	25.7	26.9	28.0	29.2	38.9	40.1	42.2	52 26.95	+ 0.18	47.15	18 53 14.28	16.74
	Moon II	†39	5.3	7.6	9.0	19.0	20.1	21.6	22.8	24.0	34.4	35.7	37.9	15 21.58	0.22	47.16	19 16 8.96	..
	κ Aquilæ	40	35.5	37.5	38.8	48.2	49.3	50.5	51.8	52.9	2.7	4.0	5.9	28 50.65	0.18	47.16	19 29 37.99	16.51
	l^{2} Sagittarii	41	45.0	47.0	48.4	58.3	59.2	0.6	1.8	2.8	12.9	14.2	16.2	34 0.58	0.21	47.16	19 34 47.95	17.47
	f Sagittarii	42	36.0	28.1	29.5	39.7	40.6	41.9	43.1	44.5	54.5	55.8	58.0	37 41.97	+ 0.23	47.16	19 38 29.36	17.86
	γ Aquilæ	43	..	..	..	1.2	2.3	3.6	4.8	5.8	15.7	17.0	19.1	39 8.69	— 4.92	47.16	19 39 50.93	14.76
Y.	α Tauri	44	..	..	..	..	..	..	52.2	54.7	56.0	57.2	58.6	27 55.74	34.91	47.56	..	14.98
	Venus I	45	51.9	53.9	..	..	..	..	..	..	21.2	22.3	24.8	29 10.82	2.49	47.59	5 29 55.93	..
	Venus II	†46	6.5	7.6	8.7	10.1	11.5	..	42.0	44.6	45.9	47.3	48.7	29 27.29	— 18.23	47.59	5 29 56.65	..
21	Sun I	47	54.7	56.9	58.2	8.5	9.7	11.0	12.2	13.4	24.2	25.2	27.5	0 11.05	+ 0.12	47.61	6 0 58.78	..
	Sun II	48	12.6	..	16.2	26.5	27.5	28.9	30.2	31.4	41.8	..	45.3	2 28.93	+ 0.12	47.61	6 3 16.66	..
	α Canis Minoris	49	..	..	..	35.9	37.4	39.4	54.4	57.0	58.2	..	..	31 47.03	— 22.72	47.66	7 32 11.97	13.59
	δ Ursæ Minoris	50	22.5	55.0	17.0	56.5	14.0	34.0	54.5	12.5	54.5	15.0	50.0	15 35.05	— 1.18	+48.02	..	— 68.07

33. Unsteady.
39. Very uneven.
46. Poor observation.

June 20–21, 5h. to 8h. n. $\equiv$ — 0.10.
21, 18h. to 21h. — 0.22.
June 21. Hazy and cloudy.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 21, 15.2	+ 47.92	+ 0.034	..

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 21	1 Aquilæ	1	. .	50.8	52.0	1.6	2.6	3.8	5.0	. .	15.8	17.0	19.0	27 5.29	— 1.25	+48.03	18 27 52.07	— 16.79
Y.	O. Arg. S. 18493	2	. .	. .	. .	15.4	16.7	19.1	35.6	38.2	39.6	. .	. .	30 27.43	— 24.52	48.03	18 30 50.94	18.67
	51 Cephei, S. P.	3	. .	. .	. .	31.0	10.0	45.0	21.0	58.5	. .	. .	. .	34 45.10	+ 0.46	48.04	18 36 33.60	114.50
	B. A. C. 6414	4	. .	. .	. .	11.0	12.0	13.5	14.9	16.1	27.5	28.8	31.0	43 19.35	— 5.47	48.04	18 44 1.92	19.75
	ν^2 Sagittarii	5	53.5	55.4	56.7	7.0	8.0	9.4	. .	12.0	. .	. .	. .	46 3.14	+ 6.62	48.04	18 46 57.80	18.56
	*—19° 21′	6	35.7	37.8	39.4	49.2	50.3	51.6	. .	53.8	. .	5.3	7.5	48 50.07	1.77	48.04	18 49 39.88	18.07
	Lalande 35497	7	3.9	5.9	7.3	. .	18.3	19.7	. .	. .	32.3	33.7	. .	54 17.24	+ 2.68	48.05	18 55 7.97	18.06
	*—23° 28′	8	18.1	. .	21.8	32.0	33.2	34.5	. .	36.8	47.5	48.7	50.9	57 35.94	— 1.18	48.05	18 58 22.81	18.57
	O. Arg. S. 19120	9	30.7	33.0	34.2	44.6	. .	46.9	48.3	49.4	59.8	1.2	3.5	59 47.16	+ 0.13	48.05	19 0 35.34	18.55
	κ Aquilæ	10	34.8	36.9	38.0	1.6	2.7	4.9	20.2	22.6	23.8	25.4	26.5	29 5.22	— 15.26	48.07	19 29 38.03	16.53
	e^2 Sagittarii	11	43.9	46.1	47.4	57.4	58.4	59.7	0.8	2.0	12.0	13.2	15.5	33 59.67	+ 0.22	48.07	19 34 47.96	17.48
	f Sagittarii	12	25.0	27.2	28.4	38.6	39.7	40.9	42.3	43.3	53.7	54.9	57.0	37 41.00	+ 0.24	48.07	19 38 29.31	17.88
	Lacaille 8288	13	. .	. .	. .	. .	. .	. .	13.5	16.3	17.7	. .	20.9	50 17.10	— 38.49	48.08	19 50 26.69	— 19.17
	λ Ursæ Minoris	14	. .	. .	. .	57.0	49.0	53.0	54.0	49.0	. .	. .	. .	59 52.40	— 1.17	48.08	20 0 39.31	+ 194.71
	a^2 Capricorni	15	30.3	32.4	33.5	43.3	44.3	45.5	46.7	47.9	57.6	58.9	0.9	9 45.57	+ 0.21	48.09	20 10 33.87	— 16.91
	B. A. C. 6992	16	45.9	47.3	48.6	49.8	52.2	. .	54.5	57.0	58.2	59.4	0.8	12 23.37	— 0.03	48.09	20 13 11.43	17.08
	β Capricorni	17	59.9	1.4	2.8	4.1	6.3	. .	8.5	11.0	12.4	13.7	15.0	12 37.51	+ 0.07	48.09	20 13 25.67	17.08
	Moon II	18	11.0	13.3	14.5	25.0	26.0	27.3	28.5	29.7	39.8	41.0	43.1	17 27.20	+ 0.22	48.09	20 18 15.51	. .
	μ Aquarii	†19	. .	. .	. .	45.9	47.2	49.2	4.7	7.2	8.4	9.6	10.9	45 0.39	— 26.19	48.11	20 45 22.31	16.32
R.	a Tauri	20	. .	. .	. .	. .	. .	. .	51.5	54.0	55.3	56.5	57.8	27 55.02	— 34.92	48.42	. . . .	— 15.00
	Mercury I	21	42.6	44.7	46.0	56.0	57.0	58.4	59.7	0.7	11.0	12.3	14.4	31 58.44	+ 0.12	48.42	4 32 46.98	+ 0.25
22	Sun I	22	3.4	5.6	7.1	17.3	18.4	19.8	21.2	22.3	32.7	34.0	36.2	4 19.82	0.11	48.44	6 5 8.37	. .
	Sun II	23	21.3	23.5	24.8	35.2	36.3	37.6	38.8	40.2	50.7	52.0	54.0	6 37.67	0.11	48.44	6 7 26.22	. .
	ψ Bootis	24	4.2	6.4	7.9	48.4	49.6	50.9	52.3	53.5	4.4	5.7	8.0	57 51.03	+ 0.09	48.68	14 58 39.80	— 13.05
	Jupiter I	25	39.7	41.1	42.5	43.5	46.2	. .	48.9	51.0	52.5	53.8	55.2	4 17.34	— 0.05	48.68	15 5 5.97	. .
	Jupiter II	26	4.6	6.6	8.0	18.0	19.0	20.2	21.3	22.5	32.5	33.7	36.0	4 20.22	+ 0.20	48.68	15 5 9.10	. .
	β Libræ	27	40.9	42.9	44.2	53.8	54.8	56.0	57.1	58.2	8.0	9.2	10.3	8 55.95	0.19	48.68	15 9 44.82	16.25
	ι Capricorni	28	38.7	40.8	42.1	52.1	53.2	54.3	55.5	56.7	6.7	8.2	10.2	13 54.41	+ 0.22	48.84	21 14 43.47	16.71
	1 Pegasi	29	. .	. .	. .	14.3	15.9	17.7	34.0	36.4	37.7	39.0	40.4	15 29.42	— 27.45	48.84	21 15 50.81	14.19
	Moon II	30	10.6	12.7	14.1	23.9	25.0	26.1	27.5	28.6	38.7	39.8	42.0	17 26.27	+ 0.19	48.85	21 18 15.31	. .
	β Aquarii	31	22.9	25.0	26.2	35.7	36.8	38.0	39.1	40.3	49.9	51.0	53.2	23 38.01	0.17	48.85	21 24 27.03	15.82
	ξ Aquarii	32	29.6	31.6	32.7	42.5	43.5	44.7	45.9	46.9	56.7	58.1	59.9	29 44.73	+ 0.18	48.85	21 30 33.76	15.95
Y.	a Tauri	33	. .	. .	. .	31.3	32.6	34.7	50.5	53.0	. .	55.6	57.0	27 44.96	— 25.83	49.73	. . . .	15.02
23	μ Capricorni	34	50.3	52.4	53.8	3.5	4.5	5.7	6.9	8.0	17.9	19.2	21.5	45 5.79	+ 0.21	49.82	21 45 55.82	16.26
	79 Draconis	35	34.0	40.5	44.9	17.8	20.9	25.4	29.4	32.8	6.1	9.5	17.0	50 25.30	— 0.14	49.82	21 51 14.98	7.41
	a Aquarii	36	45.9	47.9	49.0	58.6	59.6	0.8	1.9	3.0	12.8	13.9	16.0	58 0.85	+ 0.15	49.82	21 58 50.82	15.33
	θ Aquarii	37	37.3	39.2	40.3	50.0	51.1	52.3	53.4	54.4	4.2	5.3	7.4	8 52.26	0.18	49.83	22 9 42.27	15.65
	ρ Aquarii	38	0.2	2.4	3.5	13.0	14.0	15.2	16.3	17.5	27.2	28.4	30.4	12 15.29	0.18	49.83	22 13 5.29	15.59
	Moon II	†39	57.8	59.9	1.1	10.9	11.9	13.2	14.3	15.4	25.4	26.5	28.6	15 13.18	+ 0.17	49.83	22 16 3.18	. .
	ζ Aquarii, (1st *)	40	26.5	27.8	29.0	30.2	32.6	. .	32.8	35.3	36.4	37.6	38.9	21 2.71	— 0.09	49.84	22 21 52.46	15.20
	ζ Aquarii, (2d *)	41	47.7	49.6	50.8	0.4	1.4	2.7	3.8	4.8	14.4	15.6	17.6	21 2.62	+ 0.15	49.84	22 21 52.61	15.20
	η Aquarii	42	20.0	21.9	23.2	32.6	33.5	34.8	36.0	37.1	46.7	47.9	50.0	27 34.88	0.15	49.84	22 28 24.87	15.18
	κ Aquarii	43	40.5	42.4	43.7	53.4	54.3	55.5	56.7	57.6	7.4	8.6	10.6	29 55.52	0.17	49.84	22 30 45.53	15.30
R. 24	Sun I	44	20.5	22.8	24.1	34.2	35.5	. .	38.0	39.2	49.8	51.0	52.3	12 36.74	0.08	50.16	6 13 26.98	. .
	Sun II	45	38.4	40.4	41.8	52.2	53.3	54.7	55.9	57.0	7.6	8.8	11.0	14 54.65	+ 0.09	50.16	6 15 44.90	. .
	δ Aquarii	46	. .	. .	. .	35.2	36.3	37.5	38.7	39.8	49.9	51.1	53.2	46 42.71	— 4.95	50.77	22 47 28.53	15.54
	a Piscis Australis	47	. .	. .	. .	16.7	18.0	19.4	20.8	22.0	33.0	34.4	36.9	49 25.15	— 5.44	50.77	22 50 10.48	16.09
	a Pegasi	48	55.7	57.8	59.1	8.9	9.9	11.2	12.4	13.5	23.5	24.6	26.7	57 11.21	+ 0.11	50.78	22 58 2.10	14.71
	ϕ Aquarii	49	13.3	15.3	16.5	26.1	27.1	28.3	29.5	30.5	40.2	41.4	43.5	6 28.34	0.18	50.78	23 7 19.30	15.07
	γ Piscium	50	3.8	5.8	7.0	16.4	17.5	18.6	19.8	20.8	30.4	31.6	33.6	9 18.66	+ 0.15	+50.78	23 10 9.59	— 15.10

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
June 22, 15.5	+ 48.69	+ 0.027	+ 0.150
23, 18.6	49.73	0.028	. .
24, 23.1	+ 50.78	+ 0.037	+ 0.160

19. Through clouds.
39. Steady.

June 22. Hazy.
23. Thick hazy.

	s.
June 21–22, 4h. to 7h. n. =	— 0.12.
22, 14h. to 16h.	0.16.
21h. to 22h.	0.20.
22–23, 4h. to 5h.	0.12.
21h. to 23h.	0.20.
24, 22h. to 0h.	— 0.16.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 24	Moon II	1	59.9	2.0	3.3	12.9	14.0	15.2	16.5	17.6	27.4	28.5	30.7	11 15.27	+ 0.16	+50.78	23 12 6.21	. .
R.	ι Piscium	2	54.0	56.0	57.3	6.8	7.8	9.0	10.2	11.2	20.9	22.0	24.0	32 9.02	0.14	50.80	23 32 59.96	— 14.91
Y.	Mercury II	3	6.0	8.3	9.5	19.7	20.8	22.0	23.3	24.5	34.8	36.2	38.1	48 22.11	0.13	50.92	4 49 13.16	0.24
25	Sun I	4	28.8	31.0	32.3	42.8	43.9	45.1	46.5	47.6	58.2	59.5	1.7	16 45.22	0.13	50.98	6 17 36.33	. .
	Sun II	5	46.7	48.7	50.0	0.6	1.6	2.9	4.2	5.4	15.9	17.1	19.4	19 2.95	+ 0.13	50.98	6 19 54.06	. .
	α Canis Minoris	6	18.5	19.5	20.7	21.9	22.9	. .	51.2	53.5	54.6	56.0	57.5	31 37.63	— 16.73	51.02	7 32 11.92	13.60
	β Geminorum	7	7.0	8.0	9.4	10.7	12.0	. .	43.8	46.5	47.9	49.2	50.8	36 28.53	— 18.96	51.02	7 37 0.59	15.92
	α Leonis	8	2.5	4.5	5.9	15.6	16.7	17.9	19.1	20.2	30.0	31.2	33.3	0 17.90	+ 0.14	51.11	10 1 9.15	14.32
	O. Arg. S. 14080	9	54.4	56.7	58.0	8.6	9.7	11.0	12.3	13.4	24.2	25.4	27.7	48 11.04	+ 0.28	51.29	14 49 2.61	17.71
	β Ursæ Minoris	10	. .	. .	. .	. .	. .	. .	13.2	22.4	27.0	32.0	36.4	52 26.20	— 2 7.61	51.29	14 51 9.88	0.76
	* — 21° 51′	11	8.4	10.4	11.6	21.9	23.0	24.3	25.5	26.7	37.0	38.4	40.6	57 24.35	+ 0.21	51.30	14 58 15.86	17.42
	Jupiter I	12	15.0	17.1	18.3	28.3	29.3	30.5	31.7	32.8	42.9	44.2	46.3	3 30.58	+ 0.20	51.30	15 4 22.08	. .
	Jupiter II	13	56.2	57.7	58.9	0.1	2.4	. .	5.1	7.7	9.0	10.3	11.6	3 33.90	— 0.05	51.30	15 4 25.15	. .
	β Libræ	14	38.2	40.1	41.4	51.0	52.1	53.4	54.6	55.6	5.3	6.5	8.7	8 53.35	+ 0.18	51.30	15 9 44.83	16.24
	Lacaille 6330	15	38.4	40.9	42.6	54.5	55.8	57.3	58.8	0.1	12.4	13.8	16.4	11 57.36	0.28	51.31	15 12 48.95	19.64
	O. Arg. S. 14513	16	11.8	14.0	15.2	25.5	26.5	27.8	29.1	30.2	40.7	41.9	44.3	15 27.91	0.21	51.31	15 16 19.43	17.68
	O. Arg. S. 14554	17	45.3	47.4	48.8	59.0	0.1	1.4	2.7	3.8	14.2	15.5	17.6	18 1.44	0.21	51.31	15 18 52.96	17.68
	* — 21° 39′	18	30.8	32.9	34.4	44.5	45.5	46.9	48.1	49.2	59.6	0.8	3.1	28 46.89	0.21	51.32	15 29 38.42	17.76
	Lacaille 6471	19	59.5	2.1	3.6	16.0	17.3	19.0	20.4	21.7	34.4	36.9	38.5	31 19.04	0.29	51.32	15 32 10.65	20.30
	α Serpentis	20	31.0	32.9	34.2	43.8	44.8	46.0	47.1	48.2	57.9	59.1	1.2	36 46.02	0.15	51.32	15 37 37.49	14.99
	B. A. C. 5220	21	19.1	21.4	22.7	33.0	34.1	35.4	36.7	37.9	48.5	49.6	51.8	39 35.47	0.22	51.32	15 40 27.01	18.08
	O. Arg. S. 14925	22	19.1	21.5	22.8	33.3	34.4	35.9	37.1	38.3	48.9	50.2	52.5	41 35.82	0.23	51.32	15 42 27.37	18.40
	* — 21° 33′	23	19.2	21.3	22.6	32.9	34.0	35.2	36.5	37.7	48.0	49.2	51.4	44 35.27	0.21	51.32	15 45 26.80	17.90
	* — 21° 49′	24	46.9	48.8	50.2	0.6	1.7	2.8	4.1	5.2	15.7	16.9	19.1	48 2.91	0.21	51.33	15 48 54.45	17.96
	B. A. C. 5296	25	7.7	10.0	11.5	22.4	23.6	24.9	26.3	27.7	38.7	40.0	42.2	50 25.00	+ 0.24	51.33	15 51 16.57	19.02
	O. Arg. S. 15112	26	. .	. .	. .	10.1	11.2	12.4	13.7	14.9	25.6	26.8	29.1	52 17.98	— 5.20	51.33	15 53 4.11	18.26
	O. Arg. S. 15194	27	23.3	25.4	26.7	37.2	38.3	39.6	40.9	42.0	52.5	53.8	56.2	56 39.63	+ 0.22	51.33	15 57 31.18	18.29
	O. Arg. S. 15271	28	28.7	30.9	32.3	43.4	44.6	46.0	47.3	48.5	59.8	1.0	3.3	59 45.98	0.24	51.33	16 0 37.55	19.12
	c^2 Scorpii	29	51.6	53.8	55.2	5.9	6.9	8.4	9.7	10.9	21.8	23.1	25.3	3 8.42	0.23	51.34	16 3 59.99	18.86
	O. Arg. S. 15416	30	25.6	27.8	29.0	39.3	40.2	41.5	42.8	43.9	54.4	55.4	57.8	5 41.61	0.21	51.34	16 6 33.16	17.98
	O. Arg. S. 15452	31	17.9	20.2	21.7	32.5	33.6	34.9	36.4	37.5	48.6	50.0	52.3	7 35.05	0.24	51.34	16 8 26.63	19.16
	* — 30° 5′	32	26.8	29.1	30.5	41.5	42.7	43.9	45.5	46.6	. .	. .	. .	9 38.32	+ 6.00	51.34	16 10 35.66	19.28
	O. Arg. S. 15566	33	54.3	55.3	56.5	57.8	59.0	. .	29.4	32.1	33.3	34.7	36.2	14 14.86	— 18.00	51.34	16 14 48.20	18.30
	B. A. C. 5476	34	25.8	26.9	28.2	29.7	30.9	. .	3.2	6.0	7.2	8.8	10.2	16 47.69	— 19.08	51.35	16 17 19.96	19.28
	α Scorpii	35	0.2	2.5	3.8	14.3	15.5	16.8	18.2	19.3	30.1	31.4	33.6	20 16.88	+ 0.23	51.35	16 21 8.46	18.80
	O. Arg. S. 15714	36	21.5	23.6	24.8	35.1	36.1	37.4	38.6	39.7	50.0	51.2	53.4	23 37.40	0.21	51.35	16 24 28.96	18.07
	O. Arg. S. 15783	37	6.8	8.9	10.3	20.6	21.7	23.0	24.3	25.5	35.7	37.1	39.4	29 23.03	0.21	51.35	16 30 14.59	18.39
	O. Arg. S. 15836	38	17.9	19.9	21.4	31.7	32.9	34.2	35.4	36.6	47.2	48.5	50.7	34 34.22	0.22	51.35	16 35 25.79	18.62
	O. Arg. S. 15881	39	32.0	34.3	35.5	45.7	46.8	48.0	49.3	50.5	0.7	2.0	4.2	34 48.09	0.21	51.35	16 35 39.65	18.14
	O. Arg. S. 15950	40	19.1	21.3	22.7	33.5	34.7	36.1	37.4	38.6	49.6	50.8	53.2	38 36.09	0.24	51.36	16 39 27.69	19.32
	O. Arg. S. 16043	41	19.5	21.5	22.8	33.0	34.0	35.4	36.6	37.7	47.9	49.2	51.3	43 35.35	+ 0.20	51.36	16 44 26.91	18.02
	Lacaille 7044	42	. .	. .	. .	. .	. .	. .	13.3	16.0	17.5	19.0	20.7	46 17.30	— 39.08	51.36	16 46 29.58	19.76
	κ Ophiuchi	43	10.7	12.7	14.0	23.5	24.6	25.8	27.0	28.0	37.9	39.1	41.1	50 25.85	+ 0.15	51.37	16 51 17.37	14.70
	O. Arg. S. 16233	44	55.2	57.4	58.6	8.9	9.9	11.2	12.4	13.5	23.8	25.0	27.2	53 11.19	0.21	51.37	16 54 2.77	18.23
	* — 28° 43′	45	8.3	10.4	11.8	22.7	24.0	25.2	26.6	27.7	38.8	40.1	42.3	55 25.26	0.24	51.37	16 56 16.87	19.43
	O. Arg. S. 16302	46	17.7	19.8	21.3	32.0	33.2	34.5	35.9	37.1	48.0	49.5	51.6	56 34.60	+ 0.24	51.37	16 57 26.21	— 19.43
	ε Ursæ Minoris	47	. .	. .	. .	41.3	50.9	5.2	57.7	16.0	25.2	34.9	44.4	2 26.95	— 3 13.13	51.37	17 0 5.19	+ 21.79
	α Herculis, (1st *)	48	23.2	25.4	26.6	36.3	37.4	38.7	39.8	41.0	50.8	52.1	54.2	7 38.68	+ 0.14	51.37	17 8 30.19	— 14.27
	α Herculis, (2d *)	49	1.9	3.4	4.5	5.7	8.2	. .	10.2	12.6	14.0	15.3	16.7	7 39.25	— 0.11	51.37	17 8 30.51	14.27
	γ Piscium	50	2.8	4.9	6.1	15.5	16.6	17.8	18.9	20.0	29.7	30.9	32.8	9 17.82	+ 0.16	+51.60	23 10 9.58	— 15.13

June 24–25, 4h. to 10h. n. = s. — 0.10.
25, 14h. to 2h. — 0.16.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
June 25, 16.7	+ 51.36	+ 0.037	+ 0.160

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 25 Y.	κ Piscium	1	53.5	55.4	56.6	6.3	7.2	8.4	9.6	10.6	20.3	21.4	23.5	19 8.44	+ 0.16	+51.61	23 20 0.21	— 14.92
	ι Piscium	2	53.2	55.2	56.4	6.0	7.0	8.2	9.4	10.4	20.2	21.3	23.3	32 8.24	0.15	51.61	23 33 0.00	14.94
	a Andromedæ	3	15.7	17.9	19.4	30.2	31.3	32.7	33.9	35.2	46.1	47.4	49.8	0 32.69	0.13	51.63	0 1 24.45	15.00
	Moon II	4	0.0	2.0	3.2	13.1	14.0	15.2	16.4	17.4	27.5	28.6	30.7	6 15.28	0.15	51.63	0 7 7.06	. .
	Polaris	5	. .	. .	. .	17.0	57.0	. .	35.0	15.0	. .	. .	. .	8 44.00	1.84	51.66	1 9 37.50	95.77
26	Moon II	6	21.4	22.9	24.0	25.3	. .	. .	. .	. .	. .	. .	. .	59 23.40	35.44	52.55	1 1 51.39	. .
	Polaris	7	. .	. .	. .	17.5	57.0	43.5	33.0	15.0	. .	. .	. .	8 45.20	1.93	52.55	1 9 39.68	96.69
	β Arietis	8	1.4	3.5	4.9	14.9	16.0	17.3	18.5	19.6	29.9	31.1	33.4	46 17.32	0.13	52.58	. . . .	15.29
	a Arietis	9	23.8	26.0	27.4	37.6	38.8	40.1	41.3	42.5	53.0	54.2	56.4	58 40.10	0.13	52.58	. . . .	15.52
R. 27	Sun I	†10	45.3	47.5	49.0	59.3	0.4	1.7	2.9	4.1	. .	. .	. .	24 56.28	5.44	. .	. . . .	. .
	Sun II	†11	3.0	5.1	6.5	16.9	18.0	19.3	20.6	21.7	. .	. .	. .	27 13.89	5.44	. .	. . . .	. .
	η Piscium	12	5.5	7.7	8.9	18.8	19.7	21.0	22.2	23.3	33.2	34.5	36.7	23 21.05	+ 0.09	53.57	1 24 14.71	14.94
	Polaris	13	. .	. .	. .	. .	. .	. .	18.0	56.0	44.0	38.0	31.0	31 37.40	—22 47.87	53.57	1 9 43.10	97.64
	β Arietis	14	0.5	2.4	4.0	14.0	15.0	16.3	17.6	18.7	28.9	30.3	32.4	46 16.37	+ 0.06	53.57	1 47 10.00	15.31
	Moon II	15	46.8	48.8	50.2	0.1	1.3	2.5	3.7	4.9	15.0	16.2	18.3	56 2.53	0.10	53.57	1 56 56.20	. .
	a Arietis	16	23.0	25.1	26.4	36.7	38.0	39.2	40.5	41.6	52.0	53.3	55.5	58 39.21	+ 0.05	53.57	1 59 32.83	15.55
	η Tauri	17	. .	. .	. .	45.3	46.7	48.9	5.3	8.0	9.3	0.8	12.2	38 0.81	— 28.31	53.41	3 38 25.91	15.86
	a Tauri	18	59.3	1.4	2.8	12.7	13.6	14.9	16.1	17.3	27.3	28.5	30.7	27 14.96	+ 0.12	53.43	4 28 8.51	15.13
	Mercury II	19	58.8	0.9	2.4	12.6	13.6	14.9	16.2	17.4	27.8	29.1	31.2	7 14.99	0.11	53.44	5 8 8.54	0.22
28 Y.	Sun I	†20	53.5	55.5	56.8	7.1	8.2	9.5	10.7	12.0	22.4	23.7	26.0	29 9.58	0.10	53.46	6 30 3.14	. .
	Sun II	21	11.0	13.2	14.5	24.8	25.9	27.2	28.5	29.7	40.3	41.5	43.6	31 27.29	0.10	53.46	6 32 20.85	. .
	a Canis Minoris	22	3.2	5.2	6.5	16.0	17.0	18.3	19.5	20.7	30.2	31.4	33.5	31 18.32	+ 0.12	53.48	7 32 11.92	13.61
	β Geminorum	†23	4.7	5.7	7.0	8.3	9.5	. .	41.4	44.1	45.5	47.0	48.4	36 26.16	— 19.00	53.48	7 37 0.64	15.93
	a Hydræ	24	46.6	48.7	50.0	59.6	0.6	1.8	3.0	4.2	13.9	15.0	17.1	20 1.86	+ 0.19	53.51	9 20 55.56	13.06
	Jupiter I	25	12.8	14.4	15.7	16.7	19.3	. .	21.9	24.2	25.5	26.9	28.3	2 50.57	— 0.03	53.62	15 3 44.16	. .
	Jupiter II	26	37.8	. .	41.1	51.1	. .	53.4	. .	55.8	5.6	. .	8.9	2 53.39	+ 0.19	53.62	15 3 47.20	. .
	β Libræ	27	35.9	37.9	39.1	48.8	49.8	51.0	52.2	53.3	3.0	4.1	6.2	8 51.03	0.19	53.62	15 9 44.84	16.22
	Lalande 27907	28	26.1	28.3	29.6	39.9	40.9	42.2	43.4	44.6	55.0	56.3	58.4	11 42.25	0.24	53.62	15 12 36.11	17.56
	(* 117) W. + 55° 49′	29	44.5	48.0	50.4	7.3	8.9	11.0	13.1	15.1	32.2	34.3	37.9	16 11.15	0.03	53.62	15 17 4.80	8.70
	* — 23° 10′	30	1.2	3.4	4.8	15.0	16.2	17.4	18.8	20.0	30.5	31.9	34.0	22 17.56	0.25	53.62	15 23 11.43	17.85
	Weisse 444	31	50.4	52.5	53.7	3.5	4.6	5.7	6.9	8.0	17.7	18.9	20.9	24 5.71	0.19	53.62	15 24 59.52	16.40
	Lacaille 6439	32	32.2	34.7	35.9	. .	. .	. .	. .	. .	4.0	5.2	7.8	26 49.97	0.25	53.63	15 27 43.85	19.12
	* — 21° 39′	33	28.3	30.5	31.8	42.0	43.2	44.6	45.8	47.0	57.2	58.7	0.8	28 44.54	+ 0.24	53.63	15 29 38.41	— 17.74
	Schwerd 919	34	47.3	59.4	6.8	2.6	8.4	15.8	22.0	29.5	26.0	32.1	44.6	33 15.86	— 0.04	53.63	15 34 9.45	+ 10.80
	* — 20° 48′	35	29.4	31.6	32.8	43.1	44.2	45.5	46.7	47.9	58.1	59.3	1.6	38 45.47	+ 0.24	53.63	15 39 39.34	— 17.75
	O. Arg. S. 14925	36	16.8	19.1	20.3	31.0	32.2	33.4	34.7	35.9	46.6	47.9	50.2	41 33.46	0.26	53.63	15 42 27.35	18.39
	O. Arg. S. 15023	37	46.6	48.8	50.3	0.7	1.8	3.2	4.5	5.6	16.3	17.6	19.9	47 3.21	+ 0.26	53.63	15 47 57.10	18.41
	π Scorpii	38	45.5	46.6	47.9	49.3	50.4	. .	21.5	24.2	25.5	26.9	28.4	50 6.62	— 18.38	53.63	15 50 41.87	18.46
	O. Arg. S. 15194	39	21.0	23.0	24.6	34.8	35.9	37.3	38.6	39.7	50.4	51.7	53.9	56 37.35	+ 0.25	53.63	15 57 31.23	18.29
	O. Arg. S. 15271	40	26.5	28.7	30.0	41.1	42.3	43.6	45.0	46.2	57.4	58.8	1.2	59 43.71	0.28	53.63	16 0 37.62	19.14
	O. Arg. S. 15359	41	2.0	4.2	5.6	16.6	17.8	19.2	20.6	21.7	32.9	34.2	36.5	3 19.21	0.28	53.64	16 4 13.13	19.17
	O. Arg. S. 15389	42	12.9	15.2	16.6	27.7	28.8	30.2	31.5	32.7	43.8	45.1	47.4	4 30.17	0.28	53.64	16 5 24.09	19.19
	δ Ophiuchi	43	8.0	10.0	11.2	20.8	21.7	23.0	24.1	25.2	34.8	36.0	38.2	6 23.00	0.17	53.64	16 7 16.81	16.02
	* — 30° 10′	44	50.3	51.9	53.3	54.5	57.2	. .	6.9	9.6	10.9	12.4	14.0	9 32.10	0.01	53.64	16 10 25.75	19.29
	* — 30° 5′	45	24.6	26.7	28.2	39.3	40.5	41.9	43.2	44.5	55.7	57.2	59.3	9 41.92	0.28	53.64	16 10 35.84	19.28
	O. Arg. S. 15566	46	38.2	40.3	41.6	52.0	53.1	54.4	55.7	56.7	7.3	8.6	10.8	13 54.43	0.25	53.64	16 14 48.32	18.30
	O. Arg. S. 15590	47	3.0	5.0	6.3	16.6	17.6	18.8	20.1	21.3	31.5	32.7	34.8	15 18.88	0.23	53.64	16 16 12.75	17.92
	O. Arg. S. 15643	48	52.7	55.0	56.3	7.3	8.3	9.7	11.0	12.2	23.4	24.6	27.0	18 9.77	0.28	53.64	16 19 3.69	19.20
	O. Arg. S. 15694	49	2.0	4.3	5.7	16.6	17.8	19.1	20.5	21.6	33.0	34.3	36.6	22 19.23	0.28	53.64	16 23 13.15	19.33
	B. A. C. 5538	50	18.1	20.6	22.0	33.7	34.8	36.3	37.8	39.0	50.9	52.2	54.8	26 36.38	+ 0.32	+53.64	16 27 30.34	— 20.24

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 26, 1.9	+ 52.58	+ 0.037	+ 0.160
27, 1.7	53.57	0.010	. .
28, 12.4	+ 53.57	+ 0.018	. .

10–11. Through clouds.
20. Unsteady.
23. Faint.

	s.
June 26, n. =	— 0.16.
27,	0.30.
28,	— 0.17.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 28	O. Arg. S. 15836	1	. .	. .	. .	29.5	30.6	32.0	33.3	34.4	44.9	46.2	48.5	32 37.42	— 5.18	+53.64	16 33 25.88	— 18.63
Y.	κ Ophiuchi	2	8.5	10.4	11.6	21.2	22.2	23.5	24.8	25.7	35.6	36.7	38.9	50 23.55	+ 0.13	53.65	16 51 17.33	14.70
	B. A. C. 5718	3	13.0	14.2	15.6	16.9	18.3	. .	51.4	54.1	55.7	57.0	58.6	52 35.48	— 19.51	53.65	16 53 9.62	19.91
	O. Arg. S. 16262	4	27.6	30.0	31.5	41.8	42.9	44.5	45.7	46.9	57.5	58.9	1.1	54 44.40	+ 0.27	53.65	16 55 38.32	19.17
	ϵ Ursæ Minoris	5	. .	. .	. .	53.9	0.3	10.0	18.5	27.2	. .	. .	. .	59 9.98	0.29	53.65	. . . .	21.98
	O. Arg. S. 16420	6	3.7	6.0	7.4	18.0	19.1	20.4	21.8	22.9	33.8	35.2	37.2	2 20.50	+ 0.26	53.65	17 3 14.41	19.14
	O. A. S. 16563, (1st *)	7	42.8	44.2	45.6	46.8	49.5	. .	56.5	59.1	0.6	2.0	3.4	8 23.05	— 0.01	53.66	17 9 16.70	19.16
	O. A. S. 16563, (2d *)	8	6.4	8.5	9.8	20.5	21.5	22.8	24.2	25.5	36.1	37.5	39.8	8 22.96	+ 0.26	53.66	17 9 16.88	19.16
	O. Arg. S. 16990	9	2.4	4.7	6.1	17.0	18.2	19.4	20.7	21.9	33.0	34.3	36.5	28 19.47	0.27	53.66	17 29 13.40	19.52
	O. Arg. S. 17090	10	59.1	1.3	2.6	13.0	14.0	15.4	16.6	17.7	28.3	29.7	31.9	33 15.42	0.25	53.66	17 34 9.33	18.71
	O. Arg. S. 17209	11	18.7	20.7	22.1	32.3	33.3	34.6	35.9	37.0	47.4	48.5	50.8	38 34.66	0.24	53.66	17 39 28.56	18.43
	B. A. C. 6023	12	32.5	34.6	36.0	46.3	47.4	48.7	50.0	51.1	1.7	2.9	5.2	40 48.76	+ 0.25	53.66	17 41 42.67	18.91
	* — 28° 35′	13	. .	. .	. .	23.7	24.8	26.2	27.5	28.6	39.7	41.0	43.4	42 31.86	— 5.36	53.66	17 43 20.16	19.58
	O. Arg. S. 17339	14	27.1	29.3	30.6	40.8	41.8	43.1	44.4	45.6	55.8	56.9	59.2	45 43.15	+ 0.24	53.67	17 46 37.06	18.47
	O. Arg. S. 17376	15	7.0	9.1	10.7	20.8	22.0	23.3	24.6	25.7	36.3	37.5	39.7	47 23.34	+ 0.25	53.67	17 48 17.26	18.80
	B. A. C. 6072	16	. .	. .	. .	9.4	10.5	11.8	13.4	14.5	25.4	26.6	28.9	49 17.56	— 5.37	53.67	17 50 5.86	19.62
	O. A. S. 17506, (1st *)	17	39.0	40.5	41.9	43.2	45.6	. .	51.0	53.5	54.9	56.2	57.7	53 18.35	— 0.01	53.67	17 54 12.01	18.76
	O. A. S. 17506, (2d *)	18	2.4	4.5	5.9	16.0	17.1	18.5	19.7	21.0	31.5	32.7	34.9	53 18.56	+ 0.25	53.67	17 54 12.48	18.76
	O. Arg. S. 17681	19	14.0	16.0	17.4	27.7	28.6	29.9	31.0	32.2	42.6	43.9	46.0	59 29.94	0.24	53.67	18 0 23.85	18.52
	μ Sagittarii	20	32.0	34.2	35.4	45.6	46.7	48.0	49.3	50.5	0.8	2.0	4.4	4 48.08	+ 0.24	53.67	18 5 41.99	18.48
	δ Ursæ Minoris	†21	17.0	49.5	10.0	51.0	8.0	29.5	51.0	7.5	49.5	8.5	41.0	15 29.32	— 0.16	53.67	. . . .	68.41
	1 Aquilæ	22	43.1	45.0	46.3	55.9	56.9	58.1	59.4	0.4	10.1	11.3	13.3	26 58.16	+ 0.19	53.68	18 27 52.03	16.87
	O. Arg. S. 18493	†23	40.8	42.9	44.3	54.6	55.7	57.0	58.3	59.4	10.0	11.1	13.5	29 57.05	+ 0.25	53.68	18 30 50.98	18.76
	26 Sagittarii	24	. .	29.8	31.2	41.7	42.8	44.2	45.3	46.5	57.0	58.3	0.5	32 45.73	— 1.38	53.68	18 33 38.03	18.84
	O. Arg. S. 18604	25	1.9	4.2	5.4	15.7	16.6	17.9	19.2	20.3	30.5	31.7	33.9	35 17.94	+ 0.23	53.68	18 36 11.85	18.23
	B. A. C. 6382	26	56.1	58.5	59.8	10.6	11.6	12.9	14.2	15.4	26.5	27.8	30.0	38 13.04	0.27	53.68	18 39 6.99	19.48
	Lalande 34916	27	29.5	31.7	33.0	43.1	44.2	45.4	46.7	47.7	58.0	59.3	1.4	40 45.45	0.23	53.68	18 41 39.36	18.19
	B. A. C. 6414	28	50.6	53.0	54.4	5.6	6.7	8.0	9.3	10.6	22.0	23.3	25.6	43 8.10	0.29	53.68	18 44 2.07	19.85
	ν^1 Sagittarii	29	51.4	53.5	54.7	5.2	6.3	7.6	8.8	9.8	20.5	21.7	24.0	45 7.59	0.25	53.68	18 46 1.52	18.66
	ν^2 Sagittarii	30	47.7	50.0	51.2	1.6	2.7	4.0	5.2	6.3	16.8	18.0	20.4	46 3.99	0.25	53.68	18 46 57.92	18.65
	* — 19° 21′	31	30.4	32.4	33.7	43.6	44.7	46.0	47.3	48.5	58.6	59.8	2.0	48 46.09	0.23	53.69	18 49 40.01	18.17
	Lalande 35497	32	58.4	0.5	1.7	11.9	12.9	14.1	15.3	16.5	26.8	28.1	30.1	54 14.21	0.23	53.69	18 55 8.13	18.16
	* — 23° 28′	33	12.6	14.8	16.2	26.5	27.7	29.0	30.2	31.3	41.9	43.2	45.4	57 28.98	0.25	53.69	18 58 22.92	18.68
	O. Arg. S. 19120	34	25.2	27.4	28.7	39.0	40.1	41.3	42.6	43.7	54.4	55.6	57.8	59 41.45	0.25	53.69	19 0 35.39	18.66
	O. Arg. S. 19143	35	15.3	17.5	19.0	29.4	30.3	31.6	32.8	34.1	44.6	45.9	48.0	0 31.68	0.25	53.69	19 1 25.62	18.66
	Victoria	†36	33.2	35.2	36.4	46.0	47.0	48.2	49.5	50.5	0.3	1.5	3.6	9 48.31	0.19	53.69	19 10 42.19	. .
	δ Aquilæ	†37	33.0	35.2	36.4	45.9	46.8	48.1	49.2	50.1	0.0	1.0	3.3	17 48.09	0.15	53.69	19 18 41.93	15.71
	β Arietis	38	0.1	2.4	3.8	13.7	14.8	16.1	17.5	18.5	28.8	30.0	32.3	46 16.18	0.11	53.78	1 47 10.07	15.34
	α Arietis	39	22.8	24.9	26.3	36.6	37.6	38.9	40.2	41.3	51.8	53.0	55.4	58 38.98	0.10	53.78	1 59 32.86	15.58
	Moon II	40	31.5	33.6	35.0	45.1	46.0	47.2	48.6	49.8	0.1	1.5	3.5	51 47.45	0.12	53.78	2 52 41.35	. .
	α Ceti	41	3.0	5.0	6.2	15.7	16.7	18.0	19.2	20.2	29.8	31.0	33.1	54 17.99	0.15	53.78	2 55 11.92	14.06
R.	α Tauri	42	59.1	1.1	2.4	12.4	13.3	14.5	15.8	16.9	26.9	28.2	30.2	27 14.62	0.13	53.87	4 28 8.62	15.15
	Mercury II	43	50.1	52.2	53.5	3.8	4.9	6.2	7.5	8.6	19.1	20.4	22.5	14 6.25	0.12	53.87	5 15 0.24	0.22
	β Tauri	44	32.1	34.4	36.0	46.6	47.7	49.0	50.5	51.8	2.7	4.0	6.4	16 49.20	0.12	53.87	5 17 43.19	16.56
29	Sun I	†45	1.6	3.7	5.3	15.4	16.5	17.8	19.2	20.4	31.0	32.1	34.5	33 17.95	0.12	53.88	6 34 11.95	. .
	Sun II	†46	19.3	21.6	22.8	33.3	34.3	35.6	36.9	38.1	48.5	49.7	52.0	35 35.65	0.12	53.88	6 36 29.65	. .
	B. A. C. 5868	47	41.2	43.3	44.8	55.2	56.3	57.7	58.8	0.0	10.5	11.8	14.1	15 57.61	0.23	53.97	17 16 51.81	18.85
	b Ophiuchi	48	57.6	59.7	1.1	11.5	12.5	13.9	15.2	16.4	27.0	28.2	30.4	17 13.95	0.23	53.97	17 18 8.15	18.84
	B. A. C. 5946	49	31.3	33.5	34.9	45.4	46.7	48.0	49.5	50.6	1.6	2.9	5.3	28 48.15	0.25	53.97	17 29 42.37	19.46
	O. Arg. S. 17130	50	53.9	56.0	57.5	7.7	8.9	10.1	11.4	12.4	23.1	24.4	26.7	35 10.19	+ 0.23	+53.97	17 36 4.39	— 18.83

21. Unsteady.
23. Unsteady.
36. Several smaller stars in the field.
37. Unsteady.
45–46. Badly defined.

June 29, n. $= -0.12$ s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	s.	s.	s.
June 28, 2.2 h.	+ 53.78	+ 0.013	+ 0.160
29, 12.6 h.	+ 53.93	+ 0.008	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 29	μ Herculis	1	0.5	2.8	4.1	14.8	16.0	17.3	18.6	19.9	30.8	32.0	34.3	40 17.37	+ 0.12	+53.97	17 41 11.46	— 12.63
R.	O. Arg. S. 17339	2	27.0	29.0	30.4	40.6	41.6	42.8	44.0	45.1	55.8	56.9	59.0	45 42.93	0.22	53.97	17 46 37.12	18.47
	B. A. C. 6072	3	54.5	56.8	58.1	9.1	10.0	11.3	12.7	14.0	25.0	26.6	28.8	49 11.54	0.25	53.97	17 50 5.76	19.62
	μ Sagittarii	4	31.8	33.7	35.3	45.4	46.5	47.8	49.1	50.2	0.6	1.8	4.0	4 47.84	0.22	53.97	18 5 42.03	— 18.49
	δ Ursæ Minoris	†5	- -	- -	- -	50.0	7.0	26.5	45.0	3.0	- -	- -	- -	15 26.30	1.48	53.98	- - - -	+ 68.50
Y.	Moon II	†6	30.8	32.3	33.7	34.8	37.5	- -	42.4	45.1	46.4	47.8	49.2	48 9.87	0.01	54.46	3 44 4.34:	- -
		†7	53.6	55.6	57.2	7.4	8.4	9.6	10.9	12.1	22.7	23.8	26.0					
30	α Tauri	8	57.7	59.7	0.9	10.9	12.0	13.2	14.4	15.5	25.5	26.7	28.8	27 13.21	0.13	55.23	- - - -	— 15.19
R.	β Orionis	9	50.5	52.5	53.8	3.5	4.5	5.6	6.8	7.8	17.6	18.7	20.8	7 5.65	0.17	55.29	5 7 1.11	12.41
	β Tauri	10	30.8	33.0	34.4	45.2	46.3	47.8	48.9	50.2	1.2	2.5	4.8	16 47.74	0.12	55.30	5 17 43.16	16.60
	Mercury II	11	20.3	22.4	23.9	34.0	35.1	36.4	37.8	38.9	49.4	50.8	52.8	28 36.53	+ 0.12	55.31	5 29 31.96	0.22
July 1	Sun I	†12	- -	- -	- -	30.7	31.8	33.2	34.5	35.7	46.0	47.4	49.6	41 38.61	— 5.28	55.38	6 42 28.71	- -
	Sun II	†13	- -	- -	- -	48.1	49.2	50.6	51.9	53.2	3.6	5.0	7.1	43 56.09	— 5.28	55.38	6 44 46.19	- -
	α Hydræ	14	44.8	46.7	48.1	57.5	58.6	59.8	0.9	2.0	11.8	13.0	15.0	19 59.84	+ 0.17	55.51	- - - -	13.05
Y.	η Tauri	15	13.3	15.4	16.8	27.2	28.3	29.6	30.9	32.1	42.5	43.8	46.0	38 29.63	0.12	56.31	- - - -	15.97
	α Tauri	16	56.7	58.7	0.0	9.9	10.8	12.2	13.4	14.5	24.4	25.7	27.7	27 12.18	0.13	56.34	- - - -	15.22
2	Sun I	17	24.0	26.2	27.5	37.7	38.8	40.0	41.3	42.5	53.1	54.5	56.6	45 40.22	0.12	56.42	6 46 36.76	- -
	Sun II	18	41.1	43.3	44.7	55.0	56.0	57.4	58.6	59.7	10.3	11.5	13.9	47 57.41	0.12	56.42	6 48 53.95	- -
	β Scorpii	19	23.0	25.1	26.4	36.5	37.5	38.9	40.1	41.2	51.4	52.7	54.7	56 38.86	0.26	56.76	15 57 35.88	17.73
	B. A. C. 5330	20	1.1	2.6	3.8	5.1	7.5	- -	11.4	13.8	15.0	16.4	17.8	56 39.45	0.01	56.76	15 57 36.22	17.74
	B. A. C. 5364	21	47.9	50.0	51.5	2.2	3.3	4.6	5.9	7.1	17.9	19.2	21.3	1 4.63	0.31	56.76	16 2 1.70	18.67
	O. Arg. S. 15359	22	58.9	1.2	2.7	13.5	14.8	16.1	17.4	18.7	29.8	31.2	33.5	3 16.16	0.33	56.76	16 4 13.25	19.15
	O. Arg. S. 15388	23	9.6	11.9	13.4	24.5	25.6	27.0	28.3	29.7	40.5	42.0	44.3	4 26.98	0.33	56.76	16 5 24.07	19.18
	O. Arg. S. 15452	24	12.4	14.7	16.4	27.1	28.3	29.7	30.0	32.1	43.3	44.6	47.0	7 29.60	+ 0.33	56.76	16 8 26.69	— 19.15
	(* 120) W. +79° 36′	25	- -	- -	- -	43.2	49.2	54.9	2.0	7.7	- -	- -	- -	11 55.40	— 0.19	56.77	16 12 51.98	+ 11.50
	(* 120) W. +79° 36′	26	- -	- -	- -	- -	12.1	18.6	25.8	- -	- -	- -	- -	12 18.83	— 0.10	56.77	16 13 15.50	+ 11.52
	ζ Ophiuchi	27	31.8	33.9	35.1	44.8	45.8	47.1	48.3	49.3	59.0	0.2	2.3	28 47.05	+ 0.21	56.78	16 29 44.04	— 16.89
	O. Arg. S. 15834	28	39.9	41.5	42.9	44.1	46.6	- -	52.3	55.0	56.3	57.9	59.1	32 19.56	0.03	56.78	16 33 16.37	18.61
	O. Arg. S. 15836	29	12.4	14.5	15.9	26.4	27.5	28.8	30.0	31.3	41.8	43.1	45.2	32 28.81	+ 0.29	56.78	16 33 25.88	18.63
	O. Arg. S. 15881	30	- -	- -	- -	55.1	56.6	58.7	14.9	17.5	18.7	20.2	21.6	35 10.41	— 27.49	56.78	16 35 39.70	18.14
	O. Arg. S. 15950	31	13.6	15.8	17.2	28.2	29.3	30.5	32.0	33.2	44.3	45.6	47.7	38 30.67	+ 0.33	56.78	16 39 27.78	19.32
	Juno	32	- -	- -	- -	41.1	42.2	44.2	59.5	1.8	3.0	4.4	5.7	40 55.24	— 25.90	56.79	16 41 26.13	- -
	* — 4° 5′	33	- -	- -	- -	- -	- -	- -	22.0	24.5	25.7	27.0	28.4	41 25.52	33.55	56.79	16 41 48.76	16.25
	Weisse 845	34	- -	- -	- -	53.0	54.3	56.4	11.7	14.2	15.5	16.8	18.1	44 7.50	26.11	56.79	16 44 38.18	16.76
	B. A. C. 5678	35	- -	- -	- -	- -	- -	- -	7.8	10.8	12.2	13.8	15.3	46 11.98	38.97	56.79	16 46 29.80	- -
	B. A. C. 5684	36	- -	- -	- -	29.4	30.8	33.3	51.0	53.7	55.2	56.6	58.2	46 46.03	30.09	56.79	16 47 12.73	19.78
	* — 31° 17′	37	- -	- -	- -	- -	- -	- -	12.3	15.0	16.6	18.1	19.5	47 16.30	— 39.03	56.79	16 47 34.06	19.79
	Weisse 958	38	0.0	2.0	3.2	12.8	13.7	14.9	16.0	17.2	26.8	28.0	30.0	50 14.96	+ 0.18	56.79	16 51 11.93	16.28
	30 Ophiuchi	39	23.9	25.4	26.7	27.8	30.1	- -	30.2	32.6	33.9	35.3	36.5	53 0.24	— 0.06	56.79	16 53 56.97	16.28
	Weisse 1011	40	38.6	39.9	41.0	42.3	44.6	- -	44.8	47.2	48.5	49.7	51 0	53 14.76	0.06	56.79	16 54 11.49	16.28
	Dorpat 2119, (1st *)	†41	17.8	19.3	20.5	21.8	24.2	- -	26.0	28.5	29.7	31.0	32.3	57 55.11	— 0.01	56.80	16 58 51.90	17.42
	Dorpat 2119, (2d *)	†42	39.5	41.6	42.8	52.6	53.7	54.8	56.0	57.1	7.0	8.2	10.3	57 54.87	+ 0.23	56.80	16 58 51.90	17.42
	O. Arg. S. 16420	43	0.6	2.8	4.2	14.8	16.0	17.4	18.5	19.7	30.5	31.8	34.2	2 17.32	0.31	56.80	17 3 14.43	19.15
	A Ophiuchi, (1st *)	44	49.7	51.9	53.3	3.8	4.9	6.3	7.7	8.8	19.6	21.0	23.2	6 6.38	0.31	56.80	17 7 3.49	19.15
	A Ophiuchi, (2d *)	45	26.5	28.0	29.5	30.7	33.3	- -	40.2	42.8	44.3	45.8	47.3	6 6.84	0.05	56.80	17 7 3.69	19.15
	O. Arg. S. 16563	†46	3.0	5.3	6.6	17.4	18.4	19.7	21.1	22.3	33.0	34.3	36.5	8 19.78	0.31	56.80	17 9 16.89	19.17
	* — 22° 53′	47	50.2	52.5	53.8	40.1	5.2	6.4	7.8	8.8	19.4	20.6	22.8	14 6.51	0.29	56.81	17 15 3.61	18.68
	B. A. C. 5892	48	43.8	46.0	47.5	58.6	59.7	1.2	2.6	3.7	15.1	16.3	18.8	19 1.21	0.34	56.81	17 19 58.36	19.98
	O. Arg. S. 16990	49	59.2	1.4	2.8	13.6	14.8	16.1	17.4	18.6	29.6	30.9	33.4	28 16.16	0.32	56.81	17 29 13.29	19.65
	O. Arg. S. 17094	50	55.8	58.1	59.4	9.8	10.9	12.2	13.5	14.6	25.2	26.4	28.6	33 12.23	+ 0.29	+56.82	17 34 9.34	— 18.79

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 30, 6.0	+ 55.34	+ 0.052	+ 0.160
July 2, 14.9	+ 56.72	+ 0.037	+ 0.165

5. Unsteady.
6–7. Faint; after this cloudy.
12–13. Through clouds.
41–42. Very close double.
46. Observed larger and following, 1st star 10.0 mag.

s.
June 30 . . . . n. = — 0.12.
July 1–2, 3h. to 7h. 0.16.
2, 15h. to 20h. — 0.25.

r.
July 2, 20h. 0m. Image east 0.25. Clamp east.
Image west 0.29. Clamp west.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 2	O. Arg. S. 17130	1	50.9	53.2	54.5	4.9	5.9	7.1	8.5	9.6	20.3	21.5	23.6	35 7.27	+ 0.29	+56.82	17 36 4.38	— 18.81
Y.	μ Herculis	2	57.8	59.9	1.3	12.0	13.1	14.6	15.9	17.1	27.9	29.4	31.7	40 14.61	0.05	56.82	17 41 11.48	12.64
	Weisse 905	3	27.7	29.7	31.0	40.5	41.5	42.8	43.9	45.0	54.7	56.0	58.0	44 42.80	0.20	56.83	17 45 39.83	16.85
	Dorpat 2245, (1st *)	4	55.1	56.7	57.8	59.1	1.5	. .	4.8	7.4	8.7	9.9	11.4	49 33.24	0.16	56.83	17 50 29.91	13.91
	Dorpat 2245, (2d *)	5	17.4	19.5	20.7	30.8	31.8	33.1	34.3	35.5	45.5	46.8	49.0	49 33.13	0.09	56.83	17 50 30.05	13.91
	* + 0° 3′	6	25.4	27.4	28.6	38.2	39.1	40.4	41.5	42.6	52.3	53.4	55.6	51 40.41	0.16	56.83	17 52 37.40	15.95
	70 Ophiuchi, (1st *)	7	26.5	28.5	29.8	39.3	40.3	41.5	42.6	43.7	53.5	54.6	56.6	57 41.54	0.15	56.83	17 58 38.52	15.69
	70 Ophiuchi, (2d *)	8	. .	. .	. .	. .	. .	. .	12.2	14.5	15.8	17.1	18.4	58 15.60	33.54	56.83	17 58 38.89	15.69
	Dorpat 2281	9	39.9	41.8	43.2	52.6	53.6	54.8	56.0	57.0	6.7	7.9	9.8	1 54.85	0.15	56.84	18 2 51.84	15.53
	μ Sagittarii	10	28.8	30.9	32.3	42.4	43.5	44.8	46.1	47.2	57.6	58.7	1.0	4 44.85	0.27	56.84	18 5 41.96	18.51
	δ Ursæ Majoris	11	13.0	47.0	7.5	47.5	4.0	25.5	45.5	2.5	45.5	7.0	40.0	15 25.91	1.43	56.85	. . . .	. .
	1 Aquilæ	12	40.0	42.0	43.2	52.8	53.8	55.0	56.2	57.4	7.1	8.3	10.3	26 55.10	0.20	56.85	18 27 52.15	16.91
	O. Arg. S. 18505	13	15.0	17.3	18.7	. .	. .	. .	. .	. .	44.7	45.9	48.3	30 31.65	0.26	56.85	18 31 28.76	19.12
	O. A. S. 18506, (1st *)	14	55.5	57.0	58.4	59.7	2.3	. .	8.7	11.2	12.6	14.0	15.4	30 35.48	0.04	56.85	18 31 32.37	19.12
	O. A. S. 18506, (2d *)	15	. .	. .	. .	33.1	34.1	35.4	36.6	37.8	. .	. .	. .	30 35.40	0.35	56.85	18 31 32.60	19.12
	51 Cephei, S. P.	16	. .	. .	. .	21.0	2.2	35.5	10.0	49.7	. .	. .	. .	34 35.68	+ 0.60	56.86	6 35 33.14	115.29
	* — 6° 9′	17	. .	. .	. .	. .	. .	. .	58.2	0.6	2.0	3.2	4.5	41 1.70	— 33.65	56.86	18 41 24.91	16.66
	Dorpat 2391	18	14.0	16.0	17.4	26.9	27.8	29.0	30.3	31.3	41.0	42.2	44.3	40 29.11	+ 0.19	56.86	18 41 26.16	16.66
	B. A. C. 6414	19	. .	. .	. .	18.6	19.9	22.4	40.0	42.7	44.3	45.8	47.3	43 35.12	— 29.98	56.86	18 44 2.00	19.90
	Weisse 1219	20	29.2	31.2	32.4	42.1	43.2	44.4	45.4	46.5	56.4	57.3	59.4	47 44.32	+ 0.21	56.86	18 48 41.39	17.04
	Weisse 1299	21	32.6	34.6	36.0	45.5	46.5	47.8	48.9	50.0	59.8	1.0	3.0	50 47.79	+ 0.21	56.87	18 51 44.87	16.99
	Dorpat 2434, (1st *)	22	14.7	16.2	17.4	18.7	20.9	. .	21.1	23.5	24.6	26.0	27.4	54 51.05	— 0.07	56.87	18 55 47.85	16.08
	Dorpat 2434, (2d *)	23	37.1	39.0	40.2	. .	. .	. .	. .	. .	3.8	4.9	6.8	54 51.97	+ 0.13	56.87	18 55 48.97	16.08
	* — 8° 51′	24	42.0	44.0	45.3	54.9	55.9	57.0	58.2	59.3	9.1	10.3	12.3	58 57.12	+ 0.21	56.87	18 59 54.20	16.94
	Lalande 35791	25	. .	. .	. .	58.5	59.5	0.7	2.0	3.0	12.7	13.8	15.9	0 5.76	— 4.79	56.87	19 0 57.84	16.14
	* — 8° 33′	26	19.4	21.1	22.5	32.1	33.2	34.3	35.5	36.6	46.4	47.6	49.4	5 34.37	+ 0.20	56.88	19 6 31.45	16.90
	Victoria	27	9.2	11.2	12.4	22.1	23.0	24.3	25.5	26.6	36.3	37.5	39.5	6 24.33	0.20	56.88	19 7 21.41	. .
	Dorpat 2497, (1st *)	28	. .	. .	. .	23.7	24.7	26.0	27.3	28.2	. .	. .	. .	12 25.98	0.19	56.88	19 13 23.05	15.46
	Dorpat 2497, (2d *)	29	10.9	12.9	14.3	. .	. .	. .	. .	. .	38.0	39.3	41.3	12 26.12	0.10	56.88	19 13 23.10	15.46
	δ Aquilæ	30	30.0	32.1	33.4	42.8	43.8	45.0	46.2	47.4	56.9	58.0	0.2	17 45.07	0.15	56.88	19 18 42.10	15.76
	κ Aquilæ	31	26.0	28.0	29.3	38.8	39.8	41.0	42.2	43.3	53.0	54.2	56.2	28 41.07	0.20	56.89	19 29 38.16	16.71
	Eunomia	32	58.6	0.8	2.1	12.5	13.5	14.7	16.0	17.2	27.8	28.9	31.4	36 14.86	+ 0.29	+56.89	19 37 12.04	18.51
3	α Tauri	33	55.0	57.0	58.4	9.2	10.5	11.8	42.0	44.5	45.8	47.2	48.6	28 22.73	— 12.01	— 1.95	4 28 8.77	15.26
	β Orionis	34	47.9	49.7	50.9	0.4	1.5	2.8	4.0	5.0	14.9	15.9	18.0	8 2.82	+ 0.18	1.93	5 8 1.07	12.46
	α Orionis	35	36.4	38.5	39.6	49.3	50.2	51.4	52.6	53.8	3.5	4.7	6.7	47 51.52	0.15	1.91	5 47 49.76	14.16
	Mercury II	†36	1.1	3.0	4.6	15.0	16.2	17.4	18.7	19.9	30.3	31.7	33.7	53 17.42	0.14	1.91	5 53 15.65	0.21
4	Sun I	†37	37.3	39.4	40.8	51.1	52.2	53.5	54.9	56.2	6.4	7.8	10.0	54 53.60	0.14	1.88	6 54 51.86	. .
	Sun II	38	54.4	56.5	57.9	8.3	9.3	10.6	11.8	13.0	23.6	24.8	27.0	57 10.65	+ 0.14	1.88	6 57 8.91	. .
	O. Arg. S. 15712	39	47.5	48.8	50.0	51.4	53.9	. .	58.1	0.7	2.0	3.5	4.7	24 26.06	— 0.01	1.61	16 24 24.44	18.06
	O. Arg. S. 15713	40	14.2	16.4	17.8	27.9	28.9	30.3	31.5	32.7	42.9	44.3	46.4	24 30.30	+ 0.25	1.61	16 24 28.94	18.07
	ζ Ophiuchi	41	30.1	32.2	33.5	43.1	44.1	45.2	46.6	47.7	57.4	58.6	0.6	29 45.38	+ 0.20	1.61	16 29 43.97	16.89
	Juno	†42	. .	. .	. .	25.7	26.7	28.7	. .	46.5	47.6	48.8	. .	40 37.33	— 23.47	1.60	16 40 12.26	. .
	* — 4° 55′	43	2.4	4.8	6.1	16.5	17.6	19.0	20.2	21.3	31.9	33.3	35.4	55 18.95	+ 0.18	1.60	16 55 17.53	16.39
	B. A. C. 5768	44	54.7	57.2	58.5	9.3	10.5	12.1	13.4	14.6	25.8	27.0	29.5	0 12.05	0.30	1.60	17 0 10.75	19.70
	Dorpat 2149	†45	30.7	32.9	33.9	43.6	44.6	45.8	46.8	47.9	57.6	58.8	0.8	12 45.76	0.18	1.59	17 12 44.35	16.59
	B. A. C. 5892	46	42.0	44.3	45.7	56.9	58.0	59.6	0.9	2.2	13.2	14.7	17.0	19 59.50	+ 0.31	1.59	17 19 58.22	19.98
	O. Arg. S. 16844	47	. .	. .	. .	. .	. .	. .	19.7	22.2	23.5	24.8	26.1	22 23.26	— 35.43	1.59	17 21 46.24	18.22
	α Ophiuchi	48	26.7	28.8	30.0	39.9	40.9	42.2	43.3	44.5	54.3	55.6	57.6	28 42.16	+ 0.13	1.58	17 28 40.71	14.55
	O. Arg. S. 17090	49	54.5	56.6	58.0	8.2	9.3	10.7	12.0	13.2	23.6	24.8	27.0	34 10.72	0.26	1.58	17 34 9.40	18.80
	Dorpat 2204, (1st *)	50	30.2	32.1	33.5	43.3	44.3	45.5	46.8	47.8	57.8	58.9	1.0	38 45.56	+ 0.21	— 1.58	17 38 44.19	— 17.48

36. Unsteady.
37. Faint.
42. Very faint.
45. Preceding.

s.
July 3–4, 4h. to 7h. n. = — 0.09.
4, 16h. to 20h. — 0.19.
July 3. Before α Tauri set clock forward one minute.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
July 4, 13.3	— 1.70	+ 0.028	+ 0.165

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 4	Dorpat 2204, (2d *)	1	9.0	10.4	11.7	12.9	15.3	. .	17.0	19.4	20.8	22.0	23.3	38 46.18	— 0.03	— 1.58	17 38 44.57	— 17.48
Y.	B. A. C. 6023 . .	2	41.6	42.7	44.0	45.4	46.5	. .	17.0	19.7	21.1	22.4	23.9	42 2.43	— 18.15	1.58	17 41 42 70	18.94
	Dorpat 2234 . .	3	26.0	28.1	29.3	38.9	40.0	41.1	42.3	43.3	53.1	54.3	56.3	45 41.15	+ 0.19	1.58	17 45 39.76	16.86
	Dorpat 2245, (1st *)	4	53.3	54.9	56.3	57.4	59.9	. .	3.2	5.6	7.0	8.4	9.6	50 31.56	— 0.14	1.57	17 50 29.85	13.92
	Dorpat 2245, (2d *)	5	15.7	17.8	19.0	29.1	30.1	31.4	32.6	33.7	44.0	45.1	47.4	50 31.45	+ 0.11	1.57	17 50 29.99	13.92
	O. A. S. 17506, (1st *)	6	57.0	59.2	0.6	10.9	12.0	13.4	14.6	15.7	26.2	27.4	29.5	54 13.32	+ 0.26	1.57	17 54 12.01	18.80
	O. A. S. 17506, (2d *)	7	34.5	36.1	37.5	38.7	41.2	. .	46.4	49.2	50.5	51.9	53.3	54 13.93	0.00	1.57	17 54 12.36	18.80
	70 Ophiuchi, (1st *) .	8	37.6	38.7	39.8	40.9	42.0	. .	10.6	12.5	13.7	15.0	16.2	58 56.64	— 16.66	1.57	17 58 38.41	15.70
	70 Ophiuchi, (2d *) .	9	25.3	27.1	28.3	. .	. .	. .	. .	. .	52.0	53.3	55.4	58 40.23	+ 0.12	1.57	17 58 38.78	15.70
	B. A. C. 6160 . .	10	8.2	10.5	11.9	22.8	23.8	25.3	26.6	27.8	38.8	40.2	42.5	3 25.31	0.29	1.57	18 3 24.03	19.70
	μ Sagittarii . . .	†11	27.0	29.2	30.6	40.8	41.8	43.0	44.3	45.4	56.0	57.2	59.2	5 43.14	+ 0.25	1.57	18 5 41.82	— 18.53
	δ Ursæ Minoris . .	†12	11.0	44.0	4.5	43.0	0.5	22.0	44.0	0.0	43.0	2.0	36.0	16 22.73	— 0.42	1.56	. . . .	+ 69.20
	1 Aquilæ	13	38.4	40.3	41.6	51.3	52.2	53.5	54.7	55.7	5.5	6.6	8.6	27 53.49	+ 0.19	1.55	18 27 52.13	— 16.92
	51 Cephei, S. P. . .	14	47.5	5.5	40.0	23.0	59.0	37.0	11.0	51.0	31.0	3.0	22.0	35 35.45	0.52	1.55	6 35 34.42	115.65
	O. Arg. S. 19007 .	15	54.6	56.7	58.0	8.0	9.2	10.4	11.7	12.8	23.4	24.4	26.7	56 10.54	0.25	1.54	18 56 9.25	18.44
	B. A. C. 6525 . .	16	45.5	47.7	49.0	0.0	1.0	2.4	3.7	4.8	16.0	17.4	19.7	59 2.47	+ 0.29	1.54	18 59 1.22	19.54
	Lacaille 8017 . .	17	. .	. .	. .	19.1	20.3	21.6	22.9	24.0	35.1	36.4	38.8	1 27.28	— 5.30	1.54	19 1 20.44	19.29
	Victoria	18	.	26.2	27.5	37.0	38.0	39.1	40.3	41.4	51.3	52.5	. .	5 39.26	+ 0.20	1.54	19 5 37.92	. .
	ω Aquilæ	19	15.7	17.7	19.1	28.6	29.7	30.9	32.2	33.1	43.0	44.3	46.3	11 30.96	0.13	1.54	19 11 29.55	14.86
	* — 23° 25′ . .	20	11.1	13.2	14.8	25.0	26.1	27.4	28.7	29.7	40.4	41.6	43.9	16 27.45	0.26	1.53	19 16 26.18	18.66
	Weisse 692 . . .	21	9.8	. .	12.9	22.8	23.9	25.0	26.3	27.5	37.1	. .	40.5	28 25.09	0.20	1.53	19 28 23.76	17.10
	Eunomia . . .	22	55.5	57.6	58.9	9.6	10.7	11.8	13.3	14.3	24.9	26.0	28.2	35 11.89	0.26	— 1.52	19 35 10.63	. .
	γ Aquilæ	23	37.4	39.5	40.7	50.5	51.5	52.7	53.8	54.9	4.8	5.9	7.9	39 52.69	0.13	+ 1.52	19 39 51.30	14.99
	α Tauri	24	54.2	56.4	57.6	7.3	8.4	9.7	10.9	12.0	22.0	23.3	25.4	28 9.75	0.15	. .	. . . .	15.28
	β Orionis	25	46.9	49.1	50.3	59.7	0.7	2.0	3.1	4.1	13.9	15.2	17.2	8 2.02	0.18	. .	. . . .	12.48
R.	α Orionis	26	35.6	37.7	39.0	48.5	49.4	50.6	51.9	52.9	2.7	3.9	6.0	47 50.75	0.15	— 1.16	5 47 49.74	14.18
	Mercury II . . .	27	23.3	25.4	26.8	37.7	38.3	39.7	40.8	42.0	52.5	53.9	55.9	1 39.60	0.14	1.15	6 1 38.59	0.21
5	Sun I	†28	43.4	45.7	47.0	57.5	58.6	59.9	1.2	2.4	12.8	13.8	16.0	58 59.85	0.14	1.13	6 58 58.86	. .
	Sun II	†29	0.5	2.9	4.3	14.5	15.7	16.9	18.4	19.5	29.9	31.1	33.5	1 17.02	0.14	1.13	7 1 16.03	. .
	α Hydræ	†30	41.4	43.4	44.5	54.0	55.3	56.5	57.6	58.7	8.4	9.4	11.6	20 56.44	0.18	1.08	9 20 55.54	13.04
	δ Ursæ Minoris . .	31	. .	. .	. .	44.0	0.5	20.0	40.0	57.0	. .	. .	. .	16 20.30	1.40	0.86	. . . .	69.35
	B. A. C. 6310 . .	32	17.9	20.4	21.8	33.0	34.0	35.4	36.8	38.1	49.3	50.8	53.3	25 35.53	0.27	0.86	18 25 34.94	20.01
	1 Aquilæ	33	37.8	39.9	41.0	50.6	51.6	52.8	53.9	55.1	4.8	5.9	8.1	27 52.86	0.19	0.85	18 27 52.20	16.93
	26 Sagittarii . . .	34	22.4	24.7	26.0	36.4	37.4	38.6	39.9	40.2	51.7	53.0	54.4	33 38.61	0.24	0.85	18 33 38.00	18.92
	B. A. C. 6382 . .	35	50.8	53.0	54.5	5.3	6.3	7.6	8.9	10.3	21.3	22.6	24.8	39 7.76	0.26	0.85	18 39 7.17	19.56
	Lalande 34916 . .	36	24.3	25.3	27.6	37.6	38.7	40.0	41.2	42.4	52.5	53.7	56.0	41 39.94	0.22	0.85	18 41 39.31	18.27
	σ Sagittarii . . .	37	38.2	40.3	41.6	52.3	53.5	54.7	56.0	57.2	8.0	9.4	11.5	46 54.79	0.25	0.85	18 46 54.19	19.24
	O. Arg. S. 18883 .	38	26.5	28.6	30.1	41.0	42.2	43.5	44.8	46.2	57.2	58.5	0.9	49 43.59	0.26	0.85	18 49 43.00	19.60
	O. Arg. S. 19007 .	39	54.0	56.0	57.5	7.7	8.8	10.1	11.4	12.5	22.6	24.0	26.2	56 10.07	0.23	0.84	18 56 9.46	18.45
	B. A. C. 6525 . .	40	44.9	47.0	48.5	59.3	0.5	1.8	3.1	4.4	15.4	16.7	19.0	59 1.87	0.26	0.84	18 59 1.29	19.55
	Victoria	41	31.8	32.6	34.7	44.4	45.4	46.6	47.9	48.9	58.5	59.8	1.8	4 46.58	0.19	0.84	19 4 45.93	. .
	* — 23° 49′ . .	42	52.4	54.6	55.8	6.3	7.3	8.7	10.0	11.2	21.6	23.0	25.3	11 8.75	0.24	0.84	19 11 8.15	18.76
	Dorpat 2497, (1st *)	43	. .	. .	. .	21.4	22.4	23.6	24.8	25.9	. .	. .	. .	13 23.62	0.20	0.84	19 13 22.98	15.47
	Dorpat 2497, (2d *)	44	8.5	10.5	12.0	. .	. .	. .	. .	. .	35.6	36.8	38.9	13 23.72	0.11	0.84	19 13 22.97	15.47
	δ Aquilæ	45	27.7	29.9	30.9	40.6	41.6	42.8	43.9	45.0	54.6	55.9	58.0	18 42.81	+ 0.16	0.84	19 18 42.13	15.80
Y.	Weisse 438 . . .	46	. .	. .	. .	. .	. .	. .	20.3	22.6	23.8	25.1	26.5	19 23.66	— 33.54	0.83	19 18 49.29	15.71
6	Sun I	47	49.4	51.5	52.8	3.0	4.3	5.5	6.9	8.0	18.3	19.6	21.9	3 5.56	+ 0.14	0.13	7 3 5.57	. .
	Sun II	48	6.2	8.4	9.8	20.1	21.1	22.5	23.8	25.0	35.5	36.7	38.9	5 22.55	0.14	0.13	7 5 22.56	. .
	α Leonis	49	53.6	55.7	56.9	6.7	7.7	8.8	10.0	11.1	21.0	22.2	24.3	1 8.91	0.15	0.02	. . . .	14.25
	γ Leonis	50	13.6	15.8	17.1	27.2	28.3	29.6	30.9	32.0	42.1	43.4	45.9	12 29.63	+ 0.14	— 0.02	. . . .	— 14.77

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 5, 11.6	— 1.02	+ 0.024	+ 0.165

11. Stars unsteady.
12. Unsteady.
28–29. Unsteady and badly defined.
30. Faint.

s.
July 4–5, 4h. to 10h. n. = — 0.09.
5, 18h. to 20h. — 0.13.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 6	B. A. C. 5476	1	2.2	4.5	5.9	16.8	18.0	19.4	20.7	22.0	33.0	34.4	36.8	17 19.43	+ 0.26	+ 0.22	16 17 19.91	— 19.25
Y.	O. Arg. S. 15659	2	33.4	35.6	37.0	47.4	48.4	49.8	51.1	52.3	2.8	4.1	6.4	20 49.85	0.24	0.22	16 20 50.31	18.52
	O. Arg. S. 15694	3	55.4	57.7	59.0	10.1	11.1	12.5	14.0	15.1	26.2	27.5	29.9	23 12.59	0.26	0.22	16 23 13.07	19.31
	(* 67) W.	4	46.1	48.0	49.2	58.7	59.6	0.9	2.2	3.2	12.7	13.9	15.8	28 0.94	0.18	0.23	16 28 1.35	16.19
	ζ Ophiuchi	5	28.4	30.4	31.6	41.3	42.4	. .	44.7	45.7	55.6	56.8	58.7	29 43.56	+ 0.18	0.23	16 29 43.97	16.88
	O. Arg. S. 15836	6	9.1	. .	12.4	23.0	24.0	25.3	26.6	27.7	38.4	39.7	41.9	33 26.81	— 1.18	0.23	16 33 25.86	18.62
	O. Arg. S. 15881	7	23.2	25.4	26.6	36.8	37.9	39.2	40.4	41.5	51.9	53.2	55.2	35 39.21	+ 0.22	0.23	16 35 39.66	18.13
	Juno	†8	47.0	49.2	50.5	59.9	0.9	2.6	3.1	4.2	. .	. .	. .	38 57.10	5.18	0.23	16 39 2.51	. .
	Weisse 854	9	47.8	49.8	51.0	0.5	1.4	2.8	3.9	5.0	14.6	15.8	17.9	45 2.77	+ 0.18	0.24	16 45 3.19	16.42
	B. A. C. 5684	10	. .	. .	. .	26.1	27.4	29.5	47.6	50.4	51.9	53.4	54.8	47 42.64	— 30.16	0.24	16 47 12.72	19.78
	* — 31° 17′	11	. .	. .	. .	. .	. .	. .	8.7	11.8	13.2	14.7	16.3	48 12.94	— 39.10	0.24	16 47 34.08	19.78
	κ Ophiuchi	12	1.7	3.7	4.9	14.6	15.6	16.9	18.1	19.1	28.9	30.0	32.1	51 16.87	+ 0.15	0.24	16 51 17.26	14.70
	B. A. C. 5721	13	25.8	28.1	29.6	40.7	41.9	43.4	44.8	45.9	57.2	58.6	1.1	53 43.37	0.28	0.24	16 53 43.89	19.96
	* — 31° 34′	14	30.6	32.8	34.5	45.6	46.7	48.1	49.5	50.8	2.0	4.3	5.8	14 48.25	0.27	0.26	17 14 48.78	20.01
	b Ophiuchi	15	51.3	53.5	54.8	5.3	6.3	7.6	8.9	10.1	20.7	21.9	24.2	18 7.69	0.24	0.26	17 18 8.19	18.86
	O. Arg. S. 16816	16	57.1	59.3	0.6	10.8	11.9	13.2	14.4	15.6	25.9	27.1	29.2	20 13.19	0.22	0.26	17 20 13.67	18.42
	* — 31° 43′	17	58.4	0.7	2.1	13.3	14.6	15.9	17.4	18.5	30.0	31.2	33.6	23 15.97	+ 0.28	0.26	17 23 16.51	20.08
	B. A. C. 5946	18	. .	. .	. .	. .	. .	. .	15.9	18.7	20.0	21.5	23.0	30 19.82	— 37.84	0.27	17 29 42.25	19.49
	Rumker 5943	19	. .	. .	. .	. .	. .	. .	53.0	56.5	58.4	0.3	2.2	33 58.08	50.85	0.27	17 33 7.50	7.44
	Dorpat 2204, (1st *)	20	6.9	8.2	9.6	10.8	13.2	. .	14.8	17.2	18.4	19.8	21.3	38 44.02	— 0.04	0.27	17 38 44.25	17.49
	Dorpat 2204, (2d *)	21	28.9	30.9	32.1	41.8	43.0	44.2	45.4	46.4	56.3	57.5	59.7	38 44.20	+ 0.20	0.27	17 38 44.67	17.49
	μ Herculis	22	. .	. .	. .	. .	. .	. .	45.3	47.9	49.4	50.8	52.3	41 49.14	— 37.92	0.27	17 41 11.49	12.63
	Weisse 905	23	24.3	26.2	27.5	37.0	38.0	39.3	40.4	41.6	51.3	52.5	54.5	45 39.33	+ 0.18	0.28	17 45 39.79	16.87
	O. Arg. S. 17376	24	. .	. .	. .	29.6	30.9	33.2	49.7	52.4	53.7	55.0	56.4	48 45.11	— 28.10	0.28	17 48 17.29	18.85
	Dorpat 2245, (1st *)	25	13.8	15.7	17.0	. .	. .	. .	. .	. .	41.9	43.2	45.4	50 29.50	+ 0.09	0.28	17 50 29.87	13.92
	Dorpat 2245, (2d *)	26	. .	. .	. .	27.3	28.3	29.6	30.8	31.9	. .	. .	. .	50 29.58	+ 0.18	0.28	17 50 30.04	13.92
	* + 0° 2′	27	. .	. .	. .	48.7	49.8	51.9	7.2	9.6	10.8	12.1	13.5	53 2.95	— 25.86	0.28	17 52 37.37	15.97
	Dorpat 2264, (1st *)	28	30.7	32.8	34.2	. .	. .	. .	. .	. .	59.5	0.9	2.9	55 46.83	+ 0.09	0.28	17 55 47.20	13.55
	Dorpat 2264, (2d *)	29	. .	. .	. .	45.0	45.9	47.2	48.5	49.6	. .	. .	. .	55 47.24	0.18	0.28	17 55 47.70	13.55
	O. Arg. S. 17681	30	7.3	9.4	10.8	20.9	22.0	23.5	24.6	25.8	35.9	37.3	39.4	0 23.35	+ 0.23	0.29	18 0 23.87	18.58
	* — 23° 9′	31	48.0	49.1	50.4	51.8	53.0	.	23.4	25.9	27.4	28.7	30.2	5 8.79	— 18.03	0.29	18 4 51.05	18.83
	O. Arg. S. 17905	32	3.9	6.0	7.4	17.4	18.4	19.7	21.0	22.0	32.3	33.5	35.7	7 19.75	+ 0.22	0.29	18 7 20.26	18.27
	O. Arg. S. 17965	33	45.9	48.0	49.3	59.3	0.4	1.6	2.8	4.0	14.2	15.4	17.6	9 1.68	0.22	0.29	18 9 2.19	18.27
	O. Arg. S. 18044	34	25.9	28.1	29.5	39.9	41.0	42.2	43.6	44.8	55.2	56.5	58.7	11 42.31	0.24	0.29	18 11 42.84	18.87
	B. A. C. 6222	35	35.7	37.8	39.1	49.5	50.5	51.9	53.1	54.3	4.7	6.0	8.3	13 51.90	0.23	0.30	18 13 52.43	— 18.81
	δ Ursæ Minoris	36	. .	. .	. .	42.5	58.5	19.0	39.0	56.5	. .	. .	. .	16 19.10	1.40	0.30	. . . .	+ 69.49
	B. A. C. 6286	†37	0.7	2.8	4.3	14.8	15.8	17.0	18.4	19.5	30.0	31.2	33.4	22 17.08	0.24	0.30	18 22 17.62	— 18.86
	B. A. C. 6310	38	16.8	19.0	20.5	31.6	32.8	34.2	35.6	36.9	48.0	49.5	51.8	25 34.25	+ 0.27	0.30	18 25 34.82	20.02
	* — 31° 0′	39	0.6	2.0	3.4	4.8	7.5	. .	17.7	20.3	21.9	23.4	25.8	25 42.74	— 0.01	0.30	18 25 43.03	20.02
	β Lyræ	†40	48.6	50.9	52.5	3.8	5.0	6.5	7.9	9.1	20.6	22.0	24.6	45 6.50	+ 0.11	0.32	18 45 6.93	12.25
	Victoria	41	. .	. .	. .	50.9	51.9	53.2	54.4	55.4	5.1	6.2	8.4	3 58.19	— 4.82	0.33	19 3 53.70	. .
	* — 8° 10′	42	32.0	34.0	35.4	45.0	45.9	47.0	48.3	49.3	59.1	0.3	2.0	4 47.12	+ 0.19	0.33	19 4 47.64	16.91
	* — 8° 9′	43	9.4	11.6	13.0	23.3	24.4	25.7	26.9	28.0	38.6	39.8	41.9	16 25.69	+ 0.19	0.34	19 16 26.22	16.88
	* — 23° 27′	44	. .	. .	. .	. .	. .	. .	5.3	7.8	9.1	10.4	11.9	18 8.90	— 36.44	0.34	19 17 32.80	18.69
	O. Arg. S. 19587	45	15.3	17.4	19.0	29.6	30.6	32.0	33.3	34.5	45.2	46.5	48.8	20 32.03	+ 0.25	0.34	19 20 32.62	19.04
	O. Arg. S. 19685	46	25.0	27.1	28.6	39.4	40.4	41.8	43.0	44.4	55.2	56.5	58.7	24 41.83	+ 0.25	0.34	19 24 42.42	19.19
	O. Arg. S. 19708	47	23.6	25.1	26.5	27.8	30.5	. .	38.2	40.9	42.3	43.7	45.2	26 4.38	— 0.02	0.34	19 26 4.70	19.18
	O. Arg. S. 19713	48	55.3	57.5	59.0	9.7	10.6	11.9	13.3	14.5	25.4	26.6	28.9	26 12.06	+ 0.25	0.34	19 26 12.65	19.18
	Eunomia	49	49.9	51.9	53.3	3.6	4.7	5.9	7.2	8.4	19.0	20.2	22.5	33 6.05	0.24	0.35	19 33 6.64	. .
	* — 23° 11′	50	11.7	14.0	15.3	25.6	26.7	28.0	29.3	30.4	40.8	42.3	45.4	36 28.14	+ 0.24	+ 0.35	19 36 28.73	— 18.54

8. Very faint.
37. Clouds.
40. Clouds up.
July 6. Stars steady; interrupted by clouds.

	s.
July 6, 7h. to 11h. n. =	— 0.09.
16h. to 20h.	0.13.
4h. to 7h.	— 0.09.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
July 6, 16.3	+ 0.22	+ 0.039	+ 0.165
4.8	+ 0.76	+ 0.066	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 6	γ Aquilæ	1	35.4	37.5	38.8	48.5	49.6	50.8	52.0	53.0	2.7	4.0	6.0	39 50.75	+ 0.14	+ 0.35	19 39 51.24	— 15.02
Y.	β Aquilæ	2	26.0	28.0	29.3	38.8	39.8	41.1	42.3	43.4	53.0	54.1	56.3	48 41.10	0.15	0.35	19 48 41.60	— 15.42
	λ Ursæ Minoris	3	- -	- -	- -	42.0	33.5	37.0	38.0	34.0	- -	- -	- -	0 36.90	+ 4.31	0.36	- - - -	+ 191.79
R.	α Tauri	4	- -	- -	- -	- -	- -	- -	39.4	41.8	43.2	44.6	45.8	28 42.96	— 34.89	0.74	- - - -	- -
	α Orionis	5	33.8	35.7	37.0	46.4	47.6	48.8	49.9	51.0	0.7	2.0	4.0	47 48.81	+ 0.16	0.78	- - - -	— 14.20
	Mercury II	6	43.9	46.0	47.5	58.0	59.0	0.2	1.5	2.7	13.2	14.6	16.9	19 0.32	+ 0.14	0.86	6 19 1.32	0.20
7, Y.	α Tauri	7	3.9	5.0	6.3	7.6	8.7	- -	37.9	40.4	41.7	43.0	44.4	28 23.89	— 17.38	2.30	4 28 8.81	15.36
	β Orionis	8	43.4	45.6	46.8	56.5	57.5	58.7	59.9	0.9	10.6	11.9	13.9	7 58.70	+ 0.19	2.34	5 8 1.23	12.54
	β Tauri	9	23.9	26.2	27.6	38.5	39.6	40.9	42.2	43.5	54.4	55.8	58.1	17 40.97	0.08	2.35	5 17 43.40	16.75
	δ Orionis	10	47.2	49.2	50.4	59.9	1.0	2.1	3.3	4.3	14.0	15.2	17.3	25 2.17	0.17	2.36	5 25 4.70	13.40
	Mercury II	11	39.4	41.5	42.8	53.5	54.5	55.9	57.0	58.2	8.8	10.0	12.3	27 55.81	0.10	2.42	6 27 58.33	0.20
8	Sun I	12	59.2	1.4	2.6	- -	- -	- -	- -	- -	28.2	29.5	31.7	11 15.43	0.06	2.47	7 11 17.96	- -
	Sun II	13	15.8	18.0	19.3	29.6	30.7	32.1	33.3	34.5	44.9	45.9	48.1	13 32.02	0.10	2.47	7 13 34.59	- -
	Weisse 221	14	2.2	4.2	5.6	15.4	16.4	17.6	18.7	19.9	29.9	30.9	33.2	12 17.64	0.23	3.06	6 12 20.94	17.10
	ζ Ophiuchi	15	4.2	5.5	6.8	8.1	10.4	- -	11.4	13.9	14.9	16.4	17.8	29 40.84	0.10	3.08	16 29 44.02	16.88
		16	25.6	27.5	29.0	38.5	39.6	40.7	41.8	42.9	52.7	54.0	55.9					
	B. A. C. 5600	†17	35.4	37.5	38.8	49.6	51.7	52.0	53.3	54.5	5.3	6.6	8.9	35 52.15	0.31	3.08	16 35 55.54	19.06
	μ Herculis	18	51.3	53.5	54.9	5.6	6.7	8.0	9.5	10.6	21.5	22.9	25.3	41 8.16	0.05	3.15	17 41 11.36	12.63
	O. Arg. S. 17339	19	17.6	19.7	21.0	31.3	32.3	33.5	34.8	36.0	46.3	47.6	49.8	46 33.63	+ 0.29	3.16	17 46 37.06	18.52
	O. Arg. S. 17376	20	11.5	12.6	13.8	15.1	16.1	- -	46.7	49.5	50.8	52.3	53.6	48 32.20	— 18.01	3.16	17 48 17.35	18.86
	B. A. C. 6072	21	- -	- -	- -	15.8	17.8	19.4	36.8	39.5	40.9	42.4	43.9	50 32.06	— 29.34	3.16	17 50 5.88	19.67
	O.A.S.17506 (1st *)	22	29.6	31.0	32.3	33.8	36.3	- -	41.3	44.0	45.5	46.7	48.0	54 8.85	+ 0.03	3.17	17 54 12.05	18.82
	O.A.S.17506 (2d *)	23	52.6	54.9	56.3	6.6	7.7	8.9	10.1	11.4	22.0	23.1	25.3	54 8.99	0.29	3.17	17 54 12.45	18.82
	* — 22° 50′	24	25.9	27.9	29.4	39.7	40.8	42.1	43.3	44.6	54.9	56.3	58.6	55 42.14	0.29	3.17	17 55 45.60	18.79
	μ Sagittarii	25	22.5	24.6	26.0	36.2	37.2	38.5	39.7	40.9	51.2	52.5	54.6	5 38.54	+ 0.27	3.18	18 5 41.99	18.56
	O. Arg. S. 17905	26	- -	- -	- -	- -	- -	- -	48.9	51.3	52.6	54.0	55.4	7 52.44	— 35.34	3.18	18 7 20.28	18.28
	O. Arg. S. 17965	27	43.0	45.2	46.4	56.5	57.5	58.8	0.0	1.2	11.3	12.6	14.7	8 58.84	+ 0.26	3.18	18 9 2.28	18.28
	O. Arg. S. 18044	28	23.1	25.2	26.5	37.1	38.2	39.4	40.6	41.9	52.3	53.7	55.8	11 39.44	0.29	3.19	18 11 42.92	18.88
	B. A. C. 6222	29	33.0	35.0	36.4	46.6	47.7	49.1	50.4	51.5	2.0	3.3	5.4	13 49.13	+ 0.27	3.19	18 13 52.61	18.82
	δ Ursæ Minoris	30	- -	- -	- -	42.0	59.0	- -	40.0	56.0	37.5	0.0	32.5	17 55.29	— 1 37.28	3.19	- - - -	- -
	O. Arg. S. 18609	31	- -	- -	- -	29.8	30.8	32.0	33.2	34.3	44.8	45.9	48.1	36 37.36	— 5.14	3.21	18 36 35.53	18.55
	O. Arg. S. 18623	32	56.1	58.4	59.6	9.8	10.8	12.2	13.3	14.5	24.9	26.1	28.3	37 12.18	+ 0.27	3.21	18 37 15.66	18.55
	B. A. C. 6382	33	- -	- -	- -	17.0	18.2	20.6	38.0	40.6	42.0	43.6	45.0	39 33.12	— 29.26	3.22	18 39 7.08	19.59
	B. A. C. 6414	34	42.2	43.5	44.9	56.0	57.2	58.6	59.9	1.2	12.5	13.7	16.2	43 58.83	+ 0.34	3.22	18 44 2.19	19.96
	33 Sagittarii	35	- -	- -	- -	5.6	7.0	9.1	25.6	28.2	29.5	30.7	32.3	46 21.00	— 27.70	3.23	18 45 56.53	18.58
	* — 19° 21′	36	20.6	22.8	24.1	34.2	35.3	36.6	37.8	39.0	49.1	50.4	52.5	49 36.58	+ 0.26	3.23	18 49 40.07	18.28
	O. Arg. S. 18939	37	- -	- -	- -	45.4	46.7	49.1	6.5	9.1	10.6	12.1	13.5	53 1.62	— 29.39	3.23	18 52 35.46	19.61
	Lalande 35497	38	48.9	51.0	52.3	2.4	3.4	4.7	6.0	7.0	17.3	18.5	20.7	55 4.75	+ 0.26	3.23	18 55 8.24	18.28
	O. Arg. S. 19120	39	15.6	17.8	19.2	29.5	30.6	31.9	33.3	34.5	44.9	46.2	48.5	0 32.00	0.29	3.24	19 0 35.53	18.78
	* — 8° 3′	40	37.9	39.9	41.2	50.9	51.8	53.0	54.3	55.3	4.9	6.0	8.2	3 53.04	+ 0.20	3.24	19 3 56.48	16.91
	ω Aquilæ	41	49.6	50.9	52.2	53.4	55.8	- -	56.9	59.6	0.9	2.1	3.3	11 26.47	— 0.11	3.25	19 11 29.61	14.89
	* — 23° 18′	42	- -	- -	- -	53.2	54.2	55.5	56.8	58.0	8.5	9.8	12.0	17 1.00	— 5.11	3.26	19 16 59.15	18.69
	Lacaille 8152	43	6.6	9.0	10.4	21.6	22.7	24.2	25.5	26.8	38.3	39.6	42.0	26 24.25	+ 0.35	3.27	19 26 27.87	19.54
	Eunomia	44	40.9	43.1	44.5	55.0	56.0	57.2	58.5	59.6	10.0	11.3	13.5	30 57.24	0.29	3.27	19 31 0.80	- -
	β Aquilæ	45	23.2	25.2	26.4	36.0	36.9	38.1	39.4	40.5	50.3	51.4	53.4	48 38.26	0.14	3.29	19 48 41.69	15.45
	α Tauri	46	49.2	51.2	52.6	2.4	3.5	4.7	5.9	7.0	17.1	18.3	20.6	28 4.77	0.13	3.92	4 28 8.82	15.38
R.	β Orionis	47	41.9	43.9	45.2	54.8	55.7	57.0	58.2	59.2	9.0	10.2	12.3	7 57.04	+ 0.19	4.01	5 8 1.24	12.56
	α Orionis	†48	9.3	10.7	12.0	13.3	15.5	- -	16.2	18.4	19.8	21.0	22.5	47 45.87	— 0.09	4.04	5 47 49.82	14.25
	Mercury II	†49	43.6	45.6	47.0	57.5	58.6	59.8	1.1	2.2	13.0	14.2	16.5	36 59.92	+ 0.12	4.07	6 37 4.11	0.19
	α Canis Majoris	†50	49.8	52.0	53.4	3.1	4.2	5.4	6.6	7.8	17.8	19.0	21.3	39 5.49	+ 0.21	+ 4.08	6 39 9.78:	— 11.28

17. Through clouds.
48. Through clouds.
49. Faint.
50. Unsteady.

s.
July 7–8, 4h. to 8h. n. = — 0.19.
8, 16h. to 20h. 0.25.
8–9, - - - — 0.13.

July 8. Much interrupted by clouds.

r.
July 8, 17h. Image east 0.23. Clamp east.
Image west 0.29. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 8, 12.4	+ 2.81	+ 0.065	+ 0.165

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 9	Sun I	1	3.1	5.2	6.6	16.9	17.9	19.3	20.6	21.8	32.0	33.4	35.6	15 19.31	+ 0.12	+ 4.10	7 15 23.53	. .
R.	Sun II	2	19.8	21.8	23.3	33.5	34.6	35.9	37.2	38.5	48.8	50.1	52.2	17 35.97	0.12	4.10	7 17 40.19	. .
	Moon I	†3	5.5	6.9	8.1	9.4	11.6	. .	12.9	15.4	16.6	17.9	19.3	25 42.23	0.06	4.28	11 25 46.57	. .
		†4	26.8	28.9	30.1	39.8	40.9	42.2	43.2	44.5	54.2	55.3	57.4					
	β Leonis	5	49.0	51.1	52.5	2.2	3.3	4.5	5.8	6.8	16.8	18.0	20.1	42 4.55	0.14	. .	. . . .	— 14.06
	δ Ursæ Minoris . .	6	. .	. .	. .	38.0	53.0	14.0	35.0	52.5	. .	. .	. .	16 14.50	+ 1.40	4.57	. . . .	+ 69.86
	β Lyræ	†7	. .	. .	. .	. .	. .	. .	38.4	41.1	42.6	44.0	45.8	45 42.38	— 40.10	4.60	18 45 6.88	— 12.26
	δ Aquilæ	†8	22.4	24.3	25.8	35.3	36.3	37.4	38.7	39.7	49.1	50.4	52.4	18 37.44	+ 0.16	4.62	19 18 42.22	15.84
10	Moon I	9	34.7	36.7	38.1	47.7	48.8	50.0	51.2	52.3	2.1	3.3	5.5	11 50.04	+ 0.17	5.74	12 11 55.95	. .
	γ^1 Virginis	†10	. .	. .	. .	. .	. .	. .	12.8	15.0	16.4	17.6	19.0	35 16.16	— 33.49	5.76	. . . .	14.39
Y.	α Orionis	11	. .	. .	. .	. .	. .	. .	13.3	16.0	17.0	18.4	19.8	48 16.90	— 33.78	6.79	. . . .	14.29
11	μ Sagittarii . . .	12	18.1	20.2	21.6	31.8	32.8	34.1	35.4	36.5	46.9	48.1	50.4	5 34.17	+ 0.25	7.55	18 5 41.97	18.57
	δ Ursæ Minoris . .	†13	59.0	33.3	55.0	34.3	51.0	11.2	31.0	49.5	33.0	51.7	25.5	16 12.25	— 0.42	7.55	. . . .	. .
	1 Aquilæ	14	. .	31.3	32.6	42.1	43.2	44.4	45.6	46.7	56.4	57.6	. .	27 44.43	+ 0.20	7.57	18 27 52.20	16.97
	O. Arg. S. 18486 .	15	51.7	53.7	55.0	5.5	6.6	7.8	9.1	10.2	20.9	22.1	24.3	39 7.90	+ 0.26	7.57	18 30 15.73	18.86
	O. Arg. S. 18493 .	16	. .	. .	. .	40.8	42.0	43.4	44.6	45.7	56.2	57.5	59.7	30 48.74	— 5.14	7.57	18 30 51.17	18.87
	51 Cephei, S. P. . .	17	. .	. .	. .	15.5	52.5	28.7	4.0	43.0	. .	. .	. .	35 28.74	0.47	7.57	6 35 35.84	116.76
	* — 30° 56′ . .	18	53.8	56.2	57.5	. .	9.9	11.4	12.8	14.0	25.3	26.6	29.0	42 11.65	— 0.05	7.58	18 42 19.28	20.00
	B. A. C. 6414 . .	19	. .	39.2	40.4	51.8	52.9	54.3	55.7	56.8	8.1	9.4	. .	43 54.29	+ 0.34	7.58	18 44 2.19	20.00
	O. Arg. S. 18915 .	20	. .	. .	. .	22.9	24.0	25.3	26.6	27.8	39.1	40.4	42.6	51 31.09	— 5.37	7.59	18 51 33.31	19.66
	Dorpat 2434 (1st *)	21	4.2	5.5	6.8	8.0	10.3	. .	10.3	12.7	14.0	15.3	16.6	55 40.37	— 0.07	7.59	18 55 47.89	16.16
	Dorpat 2434, (2d *)	22	26.5	28.4	29.6	39.1	40.1	41.3	42.5	43.5	53.1	54.2	56.4	55 41.34	+ 0.17	7.59	18 55 49.10	16.16
	Victoria	23	11.8	13.9	15.3	24.6	25.6	26.7	27.9	28.9	38.8	39.9	42.0	59 26.85	0.16	7.60	18 59 34.61	. .
	O. Arg. S. 19341 .	24	55.0	57.3	58.9	9.7	10.9	12.2	13.6	14.7	25.7	27.1	29.4	8 12.23	0.29	7.60	19 8 20.12	19.57
	ω Aquilæ	25	6.5	8.6	9.9	19.7	20.6	21.8	23.0	24.0	34.0	35.3	37.3	11 21.88	0.13	7.61	19 11 29.62	14.92
	O. Arg. S. 19459 .	26	46.8	49.0	50.4	1.3	2.3	3.7	5.2	6.3	17.4	18.6	21.0	15 3.82	0.29	7.61	19 15 11.72	19.54
	O. Arg. S. 19465 .	27	54.5	56.7	58.1	9.0	10.1	11.5	12.8	14.0	25.1	26.5	28.8	15 11.55	0.29	7.61	19 15 19.45	19.54
	* — 23° 45′ . .	28	8.7	10.9	12.3	22.6	23.7	25.0	26.3	27.6	38.0	39.3	41.6	17 25.09	0.26	7.61	19 17 32.96	18.74
	Eunomia . . .	29	25.4	27.6	28.9	39.2	40.1	41.4	42.8	44.1	54.5	55.8	58.1	27 41.63	0.26	7.63	19 27 49.52	. .
	* — 24° 43′ . .	30	28.5	30.5	32.0	42.4	43.4	44.8	46.0	47.2	57.9	59.0	1.3	33 44.82	+ 0.27	7.63	19 33 52.72	18.82
	O. Arg. S. 19879 .	31	. .	. .	. .	17.4	18.6	19.9	21.3	22.5	33.0	34.4	36.5	34 25.45	— 5.18	7.63	19 34 27.90	18.82
	* + 8° 2′	32	. .	. .	. .	. .	. .	. .	32.6	34.9	36.3	37.6	38.8	36 36.04	— 33.84	7.63	19 36 9.83	15.28
	Dorpat 2562, (1st *)	33	50.5	51.7	53.8	. .	. .	. .	. .	. .	17.5	18.7	20.6	36 5.47	+ 0.10	7.63	19 36 13.20	15.28
	Dorpat 2562, (2d *)	34	. .	. .	. .	5.1	6.2	7.4	8.6	9.7	. .	. .	. .	36 7.40	0.19	7.63	19 36 15.22	— 15.28
	λ Ursæ Minoris . .	†35	. .	. .	. .	41.0	32.0	33.0	35.0	29.0	. .	. .	. .	0 34.00	1.19	7.66	. . . .	+ 191.65
	O. Arg. S. 20443 .	36	17.4	19.4	20.7	31.2	32.3	33.5	34.8	35.9	46.4	47.8	49.9	14 33.57	0.26	7.67	20 14 41.50	— 18.27
	* — 22° 15′ . .	37	16.3	18.5	19.8	30.2	31.3	32.5	33.7	34.9	45.4	46.5	48.6	17 32.52	0.26	7.68	20 17 40.46	18.18
	ρ Capricorni . . .	38	46.3	48.5	49.7	59.7	0.7	2.0	3.2	4.4	14.4	15.6	17 9	21 2.04	0.24	7.68	20 21 9.96	17.69
	ε Delphini . . .	39	23.5	25.5	26.8	36.4	37.5	38.7	40.0	41.0	50.8	52.0	54.1	26 38.75	0.13	7.68	20 26 46.56	15.09
	α Tauri	40	44.8	46.8	48.0	58.0	59.0	0.4	1.5	2.7	12.7	14.0	16.0	28 0.35	0.13	8.45	4 28 8.93	15.46
R.	β Orionis	41	37.6	39.5	40.8	50.3	51.5	52.6	53.8	54.9	4.7	5.8	7.9	7 52.67	0.19	8.42	5 8 1.28	12.62
	β Tauri	42	17.8	20.1	21.4	32.3	33.6	34.8	36.2	37.5	48.4	49.8	52.1	17 34.91	0.12	8.45	5 17 43.48	16.85
	α Orionis	43	26.2	28.2	29.5	38.8	39.9	41.1	42.2	43.3	53.3	54.4	56.5	47 41.22	+ 0.15	8.54	5 47 49.91	14.31
	α Canis Majoris . .	44	. .	. .	. .	13.3	14.6	16.5	32.6	35.0	36.4	37.8	39.1	39 28.16	— 26.90	8.60	6 39 9.86	11.32
13	Moon I	45	59.8	1.9	3.2	13.4	14.5	15.8	17.1	18.2	28.4	29.7	31.8	41 15.80	+ 0.25	10.54	14 41 26.59	. .
Y	α Libræ	46	58.5	0.4	1.7	11.6	12.6	13.9	15.2	16.4	26.3	27.5	29.7	43 13.98	+ 0.25	10.54	14 43 24.77	16.45
	β Ursæ Minoris . .	†47	1.6	9.3	13.7	49.8	53.5	58.3	2.6	6.7	43.1	47.8	55.6	50 58.36	— 0.27	10.55	14 51 8.64	0.49
	ι^1 Libræ	48	5.3	7.4	8.7	18.7	19.8	21.0	22.3	23.4	33.6	34.9	37.0	4 21.10	+ 0.27	10.54	15 4 31.93	17.09
	β Libræ	49	18.9	20.9	22.2	31.8	. .	34.0	35.2	36.3	45.9	47.2	49.3	9 34.17	+ 0.08	+10.56	15 9 44.81	— 16.11

3–4. Steady; through clouds.
7. Very faint; through clouds.
8. Faint.
10. Through clouds.
13. Steady.
35. Steady.
47. Steady.

	s.
July 11, 18h. to 21h. n. =	— 0.19.
4h. to 7h.	0.13.
13	— 0.25.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
July 9, 10.3	+ 4.23	+ 0.043	+ 0.165
10, 12.6	5.76	0.050	. .
11, 17.1	7.48	0.061	. .
5.5	8.52	0.070	0.165
13, 16.9	+ 10.66	+ 0.056	+ 0.170

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 13	O. Arg. S. 14531	1	40.6	42.8	44.2	54.3	55.4	56.7	57.9	59.0	9.4	10.6	12.8	16 56.70	+ 0.28	+10.57	15 17 7.55	— 17.48
Y.	O. Arg. S. 14554	2	25.9	28.2	29.5	39.7	40.7	42.0	43.3	44.5	54.9	56.1	58.3	18 42.10	0.28	10.57	15 18 52.95	17.55
	Lacaille 6409	3	56.2	58.5	59.9	11.2	12.4	13.7	15.3	16.4	27.9	29.2	31.6	23 13.85	0.36	10.58	15 23 24.79	18.89
	Lacaille 6439	4	15.3	17.4	19.0	30.3	31.5	32.9	34.4	35.6	47.0	48.5	50.9	27 32.98	0.36	10.58	15 27 43.92	18.99
	O. Arg. S. 14701	5	55.7	57.8	59.2	9.8	10.9	12.4	13.5	14.7	25.5	26.8	29.0	29 12.30	0.31	10.58	15 29 23.19	18.13
	Lacaille 6473	6	25.3	27.7	29.0	40.1	41.3	42.8	44.2	45.3	56.5	57.9	0.2	31 42.75	+ 0.34	10.58	15 31 53.67	18.80
	Lacaille 6491	7	0.2	1.5	2.9	4.2	5.3	. .	38.4	41.1	42.7	44.2	45.6	34 22.61	— 19.41	10.59	15 34 13.79	18.97
	O. Arg. S. 14839	8	19.9	22.2	23.4	33.6	34.7	36.0	37.1	38.3	48.8	50.1	52.3	37 36.04	+ 0.29	10.59	15 37 46.92	17.81
	* — 20° 47′	9	12.4	14.6	15.9	26.0	27.1	28.4	29.6	30.8	41.2	42.3	44.6	39 28.45	0.28	10.59	15 39 39.32	17.65
	ε Serpentis	10	40.0	41.9	43.0	52.4	53.4	54.7	55.9	57.0	6.5	7.6	9.7	43 54.74	+ 0.15	10.59	15 44 5.48	15.09
	* — 21° 32′	11	. .	. .	. .	28.5	29.8	31.9	48.3	50.9	52.3	53.7	55.0	45 43.80	— 27.69	10.59	15 45 26.70	17.80
	* — 21° 48′	12	27.6	29.7	31.0	41.2	42.3	43.5	44.7	45.9	56.3	57.6	59.7	48 43.59	+ 0.28	10.60	15 48 54.47	17.87
	B. A. C. 5296	13	48.3	50.6	52.0	2.9	4.1	5.4	6.8	8.0	19.1	20.5	22.9	51 5.52	+ 0.34	10.60	15 51 16.46	18.92
	O. Arg. S. 15112	14	. .	. .	. .	50.7	51.9	53.2	54.5	55.6	6.2	7.5	9.6	52 58.65	— 5.12	10.60	15 53 4.13	18.16
	O. Arg. S. 15183	15	. .	. .	. .	40.4	41.4	42.8	44.0	45.3	. .	. .	. .	56 42.78	+ 0.34	10.61	15 56 53.73	18.13
	O. Arg. S. 15191	16	. .	. .	. .	3.2	4.3	5.7	7.0	8.1	18.6	19.8	22.1	57 11.10	— 5.10	10.61	15 57 16.61	18.13
	O. Arg. S. 15205	17	36.8	38.9	40.1	50.6	51.6	52.9	54.3	55.3	5.7	7.2	9.4	57 52.98	+ 0.29	10.61	15 58 3.88	18.14
	O. Arg. S. 15271	18	9.3	11.6	12.9	24.1	25.2	26.5	28.0	29.1	40.1	41.6	43.8	0 26.56	0.34	10.61	16 0 37.51	19.05
	B. A. C. 5394	19	11.6	13.9	15.2	25.6	26.7	28.0	29.4	30.5	41.0	42.3	44.6	5 28.07	0.30	10.62	16 5 38.99	18.32
	O. Arg. S. 15466	20	35.3	37.3	38.7	48.9	49.8	51.0	52.3	53.5	3.8	5.1	7.3	8 51.18	+ 0.28	10.62	16 9 2.08	17.96
	* — 30° 4′	21	. .	. .	. .	22.4	23.4	24.8	26.1	27.4	38.5	39.8	42.2	10 30.58	— 5.39	10.62	16 10 35.81	19.21
	Lacaille 6796	22	. .	. .	. .	32.1	33.3	34.6	36.0	37.4	48.7	50.0	52.5	12 40.58	5.54	10.62	16 12 45.66	19.68
	Lacaille 6797	23	. .	. .	. .	. .	. .	. .	18.8	21.7	23.0	24.5	26.2	13 22.84	— 39.70	10.62	16 12 53.76	19.67
	O. Arg. S. 15390	24	46.0	48.1	49.5	59.5	0.6	1.8	3.1	4.1	14.4	15.6	17.9	16 1.87	+ 0.27	10.63	16 16 12.77	17.87
	O. Arg. S. 15643	25	35.6	37.8	39.3	50.1	51.3	52.7	54.0	55.1	6.3	7.5	9.9	18 52.69	0.33	10.63	16 19 3.65	19.14
	B. A. C. 5522	26	57.5	59.7	1.3	12.4	13.5	14.8	16.2	17.5	28.9	30.2	32.5	24 14.95	+ 0.35	10.63	16 24 25.93	19.54
	Lacaille 6891	27	14.4	15.6	17.0	18.5	19.7	. .	53.5	56.3	57.9	59.3	0.8	27 37.30	— 19.86	10.64	16 27 28.08	20.01
	Weisse 562	28	. .	. .	. .	20.6	21.8	23.8	38.9	41.3	42.5	43.9	45.3	30 34.76	25.85	10.64	16 30 19.55	15.70
	Weisse 575	29	. .	. .	. .	54.5	55.8	57.8	13.0	15.4	16.7	17.9	19.3	31 8.80	25.85	10.64	16 30 53.59	15.70
	Weisse 637	30	22.3	24.3	25.6	. .	36.1	37.3	38.4	39.5	49.2	50.3	52.4	33 37.54	0.05	10.64	16 33 48.13	15.73
	B. A. C. 5605	31	. .	. .	. .	30.3	31.5	32.8	34.3	35.5	46.8	48.0	50.4	36 38.70	5.42	10.64	16 36 43.92	19.55
	B. A. C. 5612	32	. .	. .	. .	. .	. .	. .	39.2	41.9	43.4	45.0	46.4	38 43.18	— 39.00	10.64	16 38 14.82	19.68
	B. A. C. 5630	33	25.7	28.0	29.5	40.6	41.8	43.2	44.6	45.8	57.1	58.4	0.8	40 43.23	+ 0.35	10.65	16 40 54.23	19.73
	Weisse 845	34	12.2	14.3	15.4	25.0	26.1	27.3	28.6	29.5	39.2	40.5	42.6	44 27.34	0.21	10.65	16 44 38.20	16.74
	O. Arg. S. 16100	35	33.7	35.9	37.5	48.2	49.4	50.7	52.1	53.4	4.4	5.7	8.0	46 50.82	0.33	10.65	16 47 1.80	19.41
	Weisse 958	36	46.0	48.1	49.3	58.9	59.9	1.1	2.4	3.3	13.0	14.2	16.2	51 1.13	+ 0.19	10.66	16 51 11.98	16.26
	Weisse 961	37	. .	. .	. .	. .	. .	. .	1.7	4.2	5.6	6.8	8.2	53 5.30	— 33.54	10.66	16 52 42.42	16.26
	30 Ophiuchi	38	31.0	33.1	34.2	43.9	45.0	46.1	47.3	48.4	58.0	59.1	1.1	53 46.11	+ 0.19	10.66	16 53 56.96	16.26
	Weisse 1011	39	. .	. .	. .	12.5	13.7	15.8	31.0	33.3	34.5	35.8	37.0	54 26.70	— 25.89	10.66	16 54 11.47	16.26
	Dorpat 2119 (1st *)	†40	4.0	5.4	6.6	7.8	10.3	. .	11.8	14.5	15.7	16.8	18.2	58 41.11	0.00	10.66	16 58 51.77	17.41
	Dorpat 2119 (2d *)	41	25.6	27.7	29.0	38.8	39.8	40.9	42.2	43.2	53.3	54.4	56.5	58 41.04	+ 0.24	10.66	16 58 51.94	17.41
	O. Arg. S. 16420	42	46.7	49.0	50.2	0.9	2.0	3.2	4.7	5.7	16.6	18.0	20.2	3 3.38	0.31	10.67	17 3 14.36	19.14
	O. Arg. S. 16505	43	59.9	1.4	2.7	4.2	6.7	. .	13.7	16.3	17.9	19.3	20.8	6 40.29	0.05	10.67	17 6 51.01	19.14
	A Ophiuchi (1st *)	44	12.2	13.7	15.0	16.4	19.1	. .	26.0	28.9	30.2	31.6	33.0	6 52.61	0.05	10.67	17 7 3.33	19.14
	A Ophiuchi (2d *)	45	35.9	38.0	39.5	50.2	51.3	52.6	54.0	55.2	5.6	6.9	9.3	6 52.68	+ 0.31	10.67	17 7 3.66	19.14
	α Herculis	46	. .	. .	. .	. .	. .	. .	50.5	53.0	54.3	55.6	57.0	8 54.08	— 34.66	10.67	17 8 30.09	14.25
	Dorpat 2149	†47	. .	. .	. .	. .	. .	. .	3.9	6.6	7.5	8.8	10.0	13 7.36	— 33.65	10.67	17 12 44.38	16.59
	b Ophiuchi	48	40.8	43.0	44.3	54.8	55.9	57.2	58.5	59.6	10.0	11.3	13.7	17 57.19	+ 0.30	10.68	17 18 8.17	18.86
	O. Arg. S. 16844	†49	19.6	21.7	23.0	33.1	34.0	35.3	36.5	37.7	48.0	49.3	51.4	21 35.42	+ 0.27	10.69	17 21 46.38	— 18.23
	δ Ursæ Minoris	50	. .	30.0	53.0	. .	49.5	10.0	30.0	47.0	30.0	50.0	. .	15 14.94	— 5.82	+10.74	. . . .	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 13, 16.9	+ 10.66	+ 0.056	+ 0.170

40. Very close; double.
47. Southward and preceding.
49. A very red star.

DATE.	OBJECT	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 13	51 Cephei, S. P. . .	1	. .	. .	. .	11.0	52.0	26.0	2.0	39.0	. .	. .	. .	35 26.00	+ 0.67	+10.76	18 35 37.43	— 117.01
Y.	β Lyræ	2	38.4	40.7	42.2	53.5	54.7	56.0	57.5	58.8	0.2	1.7	4.1	44 56.16	0.04	10.76	18 45 6.96	12.27
	δ Aquilæ	3	16.4	18.3	19.6	29.0	30.1	31.3	32.4	33.4	43.1	44.1	46.2	18 31.26	0.16	10.80	19 18 42.12	15.87
	α Tauri	4	42.0	44.0	45.5	55.2	56.3	57.6	58.8	59.9	9.9	11.0	13.2	27 57.58	0.13	11.26	4 28 8.97	15.51
	β Orionis	5	34.7	36.8	38.0	47.5	48.5	49.8	50.9	52.2	1.9	3.0	5.1	7 49.85	0.19	11.28	5 8 1.32	12.67
	β Tauri	6	15.1	17.3	18.8	29.6	30.7	32.0	33.5	34.8	45.5	47.0	49.2	17 32.14	0.11	11.29	5 17 43.54	16.91
	δ Orionis	7	38.4	40.4	41.6	51.3	52.3	53.4	54.5	55.6	5.2	6.4	8.5	24 53.42	0.17	11.29	5 24 4.88	13.52
	ε Orionis	8	53.5	55.6	56.8	6.2	7.2	8.5	9.7	10.7	20.4	21.5	23.6	29 8.52	0.17	11.30	5 29 19.99	13.41
14	Sun I	9	16.6	18.8	20.1	30.3	31.5	32.7	34.0	35.0	45.4	46.8	48.9	35 32.74	0.12	11.38	7 35 44.24	. .
	Sun II	10	32.6	34.6	36.1	46.3	47.4	48.7	49.9	51.1	1.5	2.8	4.9	37 48.72	0.12	11.38	7 38 0.22	. .
	α Leonis	11	41.9	44.1	45.5	55.2	56.1	57.3	58.5	59.7	9.6	10.6	12.9	0 57.40	0.14	11.48	10 1 9.02	14.23
	O. Arg. S. 14311 .	12	51.4	53.7	55.0	5.5	6.6	8.0	9.2	10.5	21.0	22.3	24.7	2 7.99	0.26	11.68	15 2 19.93	17.72
	ι^1 Libræ	13	4.1	6.2	7.5	17.7	18.7	20.0	21.2	. .	32.5	33.7	35.9	4 19.75	0.46	11.68	15 4 31.89	17.08
	β Libræ	14	17.7	19.7	21.0	30.5	31.6	32.8	34.0	35.1	44.8	46.0	48.1	9 32.85	0.19	11.68	15 9 44.72	16.10
	Lacaille 6342 . .	15	19.3	21.7	23.2	34.3	35.4	36.8	38.2	39.6	50.9	52.2	54.5	13 36.92	0.29	11.69	15 13 48.90	18.56
	O Arg. S. 14554 .	16	24.8	27.0	28.3	38.5	39.6	40.9	42.1	43.2	53.6	55.0	57.2	18 40.93	0.25	11.69	15 18 52.87	17.54
	Lacaille 6409 . .	17	55.1	57.4	58.8	10.2	11.3	12.7	14.0	15.3	26.7	28.0	30.6	23 12.74	0.30	11.69	15 23 24.73	18.88
	γ Libræ	18	31.3	33.5	34.7	44.5	45.6	46.8	48.0	49.2	59.0	0.3	2.3	27 46.84	0.21	11.69	15 27 58.74	16.82
	Lacaille 6473 . .	19	24.3	26.6	28.0	39.0	40.1	41.5	42.9	44.0	55.5	56.8	59.2	31 41.63	0.29	11.70	15 31 53.62	18.79
	κ Libræ	20	42.6	44.8	46.2	56.2	57.3	58.6	59.8	0.9	11.2	12.3	14.5	33 58.58	0.23	11.70	15 34 10.51	17.41
	Moon I	†21	51.4	53.6	54.9	5.2	6.3	7.6	8.8	10.0	20.5	21.8	24.0	37 7.65	0.23	11.70	15 37 19.58	. .
	λ Libræ	22	2.4	4.6	5.8	15.9	17.0	18.3	19.5	20.6	30.9	32.2	34.3	45 18.32	0.23	11.71	15 45 30.26	17.58
	π Scorpii	23	13.1	15.4	16.7	27.2	28.3	29.6	30.9	32.2	42.7	44.2	46.4	50 29.70	0.26	11.71	15 50 41.67	18.36
	δ Scorpii	24	53.4	55.7	57.0	7.2	8.2	9.7	10.9	12.0	22.5	23.7	25.8	52 9.65	0.25	11.71	15 52 21.61	17.95
	β Scorpii	25	7.9	10.0	11.4	21.4	22.4	23.7	24.9	26.1	36.3	37.6	39.7	57 23.76	+ 0.23	11.72	15 57 35.71	17.66
	B. A. C. 5330 . .	26	46.0	47.5	48.8	50.0	52.5	. .	56.3	58.8	0.2	1.5	2.8	57 24.44	— 0.02	11.72	15 57 36.14	17.67
	Lacaille 6703 . .	27	. .	. .	. .	48.4	49.8	51.2	52.8	54.1	6.8	8.4	10.9	0 57.80	— 6.10	11.72	16 1 3.42	20.68
	Lacaille 6716 . .	28	31.4	33.8	35.5	47.8	49.0	50.6	52.2	53.6	6.2	7.6	10.2	1 50.72	+ 0.35	11.72	16 2 2.79	20.68
	B. A. C. 5394 . .	29	10.5	12.7	14.1	24.5	25.6	26.8	28.2	29.3	39.9	41.1	43.3	5 26.81	+ 0.25	11.72	16 5 38.78	18.32
	Weisse 113 . . .	30	. .	. .	. .	23.3	24.6	26.7	41.3	44.9	46.1	47.5	48.7	7 37.89	— 26.63	11.72	16 7 22.98	17.15
	O. Arg. N. 16057 .	31	53.7	57.0	59.1	15.2	17.0	18.9	20.8	22.4	38.6	40.9	44.4	12 18.91	+ 0.08	11.72	16 12 30.71	8.23
	Lacaille 6818 . .	32	. .	. .	. .	. .	. .	. .	6.9	10.0	11.5	12.9	. .	16 10.32	— 39.84	11.73	16 15 42.21	20.02
	α Scorpii	33	39.8	42.0	43.4	54.1	55.3	56.6	57.8	58.9	9.7	10.9	13.3	20 56.53	+ 0.26	11.73	16 21 8.52	18.74
	O. Arg. S. 15712 .	34	34.0	35.6	36.8	38.2	40.5	. .	44.7	47.3	48.5	50.0	51.4	24 12.70	— 0.01	11.73	16 24 24.42	18.03
	O. Arg. S. 15713 .	35	1.0	3.0	4.4	14.7	15.6	16.9	18.2	19.3	29.6	30.8	33.0	24 16.95	+ 0.24	11.73	16 24 28.92	18.02
	A Draconis . . .	36	. .	. .	. .	39.2	42.3	49.9	30.5	37.1	40.5	44.4	47.9	29 18.72	— 12.72	11.74	16 28 17.74	1.55
	Weisse 637 . . .	†37	21.1	23.1	24.4	33.8	34.8	36.0	37.2	38.3	47.9	49.1	51.1	33 36.07	+ 0.17	11.74	16 33 47.98	15.73
	B. A. C. 5612 . .	38	. .	. .	. .	0.0	1.2	2.7	4.0	5.3	16.5	17.8	20.4	38 8.49	— 5.51	11.74	16 38 14.72	19.67
	B. A. C. 5630 . .	39	24.5	26.8	28.3	39.5	40.7	42.0	43.4	44.7	55.9	57.3	59.7	40 42.07	+ 0.29	11.74	16 40 54.10	19.72
	* — 4° 55′ . . .	40	44.6	46.5	47.8	57.3	58.4	59.5	0.7	1.7	11.5	12.5	14.7	43 59.56	0.18	11.75	16 44 11.49	16.32
	Weisse 859 . . .	41	53.9	55.9	57.0	6.5	7.5	8.7	10.0	11.1	20.8	21.9	24.0	45 8.85	+ 0.18	11.75	16 45 20.78	16.32
	O. Arg. S. 16100 .	42	. .	. .	. .	3.3	4.6	6.9	24.3	27.0	28.3	29.8	31.3	47 19.44	— 29.47	11.75	16 47 1.72	19.40
	Weisse 981 . . .	43	15.4	17.4	18.7	28.0	29.1	30.3	31.5	32.5	42.2	43.4	45.4	52 30.35	+ 0.18	11.75	16 52 42.28	— 16.25
	ε Ursæ Minoris . .	44	0.4	14.7	24.2	35.0	42.0	50.9	59.7	8.2	18.6	28.2	42.8	59 51.34	+ 0.16	11.76	. . . .	+ 23.59
	Weisse 46 . . .	45	. .	. .	. .	. .	. .	. .	53.1	55.5	56.8	58.1	59.5	4 56.60	— 33.57	11.76	17 4 34.79	— 16.35
	α Herculis, (1st *) .	46	2.7	4.8	6.1	15.9	16.9	18.1	19.4	20.4	30.5	31.7	33.7	8 18.20	+ 0.14	11.76	17 8 30.10	14.25
	α Herculis, (2d *) .	47	41.4	42.8	44.1	45.3	47.5	. .	49.6	52.2	53.4	54.8	56.1	8 18.72	— 0.11	11.76	17 8 30.37	14.25
	α Tauri	48	40.7	42.8	44.1	54.1	55.0	56.3	57.5	58.7	8.6	9.8	11.9	27 56.31	+ 0.13	12.56	4 28 9.00	15.54
	β Orionis	49	33.4	35.5	36.8	46.3	47.3	48.5	49.7	50.8	0.7	1.7	3.8	7 48.59	0.19	12.59	5 8 1.37	12.69
R.	β Tauri	50	13.8	16.0	17.6	28.3	29.5	30.8	32.2	33.5	44.4	45.8	48.0	17 30.90	+ 0.11	+12.55	5 17 43.56	— 16.93

21. Steady.
37. Observed the southward and following.

July 14, . . . n. = — 0.15.
14–15, 4h. to 8h. — 0.15.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
July 14,	10.6	+ 11.50	+ 0.040	+ 0.170
	5.5	+ 12.61	+ 0.050	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 14	ε Orionis	1	52.3	54.3	55.5	4.8	5.9	7.3	8.5	9.6	19.1	20.3	22.3	29 7.26	+ 0.17	+12.56	5 29 19.99	— 13.43
R.	α Orionis	†2	22.1	24.0	25.4	34.8	. .	37.2	38.5	39.5	49.0	50.4	52.4	47 37.33	0.02	12.57	5 47 49.92	14.37
Y.	α Canis Majoris	†3	41.4	43.5	44.9	54.9	55.9	57.1	58.4	59.4	9.8	10.8	12.8	38 57.17	0.22	12.67	6 39 10.06	11.36
15	Sun I	4	18.1	20.0	21.4	31.7	32.6	33.9	35.3	36.4	46.8	48.2	50.4	39 34.07	0.12	12.73	7 39 46.92	. .
	Sun II	5	33.9	36.1	37.4	47.6	48.7	50.0	51.3	52.5	2.8	4.0	6.2	41 50.05	0.12	12.73	7 42 2.90	. .
	δ Scorpii	6	52.4	54.5	55.7	5.9	7.0	8.3	9.6	10.8	21.2	22.5	24.7	52 8.42	0.29	12.89	15 52 21.60	17.94
	β Scorpii	7	6.7	8.9	10.2	20.2	21.3	22.5	23.7	24.9	35.1	36.3	38.6	57 22.58	0.27	12.90	15 57 35.75	17.65
	B. A. C. 5330	8	44.9	46.3	47.6	48.9	51.3	. .	55.0	57.6	58.9	0.2	1.6	57 23.23	0.02	12.90	15 57 36.15	17.66
	O. Arg. S. 15401	9	27.9	30.0	31.3	41.6	42.7	44.0	45.3	46.4	57.2	58.3	0.5	5 44.11	0.29	12.90	16 5 57.30	18.22
	χ Ophiuchi	10	43.5	45.7	47.0	56.9	58.0	59.2	0.5	1.7	11.8	13.0	15.1	18 59.31	+ 0.26	12.92	16 19 12.89	17.69
	ϕ Ophiuchi	11	. .	. .	. .	9.7	10.7	11.9	13.2	14.2	24.5	25.6	27.7	23 17.19	— 4.91	12.93	16 23 25.21	17.50
	(* 67) W.	12	. .	. .	. .	45.8	46.8	48.0	49.2	50.3	0.0	1.2	3.2	27 53.06	— 4.78	12.94	16 28 1.22	16.15
	Weisse 637	13	20.1	22.0	23.4	32.8	33.9	35.0	36.1	37.1	46.7	47.9	49.7	33 34.97	+ 0.17	12.94	16 33 48.08	15.72
	Moon I	14	10.1	12.4	13.7	24.0	25.2	26.4	27.7	28.9	39.5	40.8	43.0	36 26.52	0.27	12.95	16 36 39.74	. .
	O. Arg. S. 15977	15	16.3	18.5	19.8	29.7	30.7	31.9	33.2	34.3	44.4	45.5	47.7	40 32.00	+ 0.25	12.95	16 40 45.20	17.58
	B. A. C. 5633	16	. .	. .	. .	. .	. .	. .	51.8	54.5	55.9	57.4	58.7	41 55.66	— 36.64	12.95	16 41 31.97	18.67
	Weisse 845	17	9.8	11.8	13.0	22.8	23.8	25.0	26.1	27.2	37.0	38.2	40.2	44 24.99	+ 0.21	12.96	16 44 38.16	16.73
	B. A. C. 5678	18	. .	. .	. .	. .	. .	. .	51.7	54.5	56.0	57.4	58.9	46 55.70	— 39.00	12.96	16 46 29.66	19.74
	Weisse 958	19	43.8	45.8	47.1	56.5	. .	58.6	59.9	1.0	10.6	11.8	13.9	50 58.90	+ 0.06	12.97	16 51 11.93	16.25
	B. A. C. 5730	20	48.0	50.2	51.5	1.9	2.9	4.4	5.6	6.8	17.3	18.6	20.9	55 4.37	0.30	12.97	16 55 17.64	18.72
	B. A. C. 5768	21	40.3	42.6	44.1	55.0	56.1	57.4	58.8	0.0	11.2	12.7	14.9	59 57.55	0.34	12.98	17 0 10.87	19.68
	η Ophiuchi	22	10.0	12.2	13.4	23.2	24.2	25.5	26.7	27.8	37.8	39.0	41.0	2 25.53	0.25	12.98	17 2 38.76	17.64
	* — 33° 35′	23	36.6	38.9	40.4	51.8	53.0	54.4	55.9	57.0	8.9	10.2	12.6	5 54.52	0.37	12.99	17 6 7.88	20.29
	B. A. C. 5807	24	27.7	30.0	31.5	43.0	44.2	45.5	47.0	48.1	59.8	1.2	3.7	6 45.61	+ 0.37	12.99	17 6 58.97	20.30
	O. Arg. S. 16563	25	. .	. .	. .	. .	. .	. .	37.1	40.0	41.4	42.3	44.3	9 41.12	— 37.27	12.99	17 9 16.84	19.16
	θ Ophiuchi	26	14.0	16.3	17.6	28.1	29.1	30.5	31.8	33.0	43.6	44.9	47.1	13 30.55	+ 0.31	12.99	17 13 43.85	18.94
	B. A. C. 5868	27	22.2	24.4	25.7	36.1	37.1	38.5	39.8	40.9	51.5	52.9	55.0	16 38.55	0.30	13.00	17 16 51.85	18.86
	b Ophiuchi	28	38.6	40.7	42.1	52.3	53.5	54.9	56.2	57.3	7.9	9.1	11.4	17 54.91	+ 0.30	13.00	17 18 8.21	18.86
	O. Arg. S. 16816	29	. .	. .	. .	13.1	14.5	16.5	32.8	35.3	36.6	38.0	39.4	20 28.28	— 27.56	13.00	17 20 13.72	18.42
	* — 31° 43′	30	45.6	48.0	49.5	0.6	1.8	3.3	4.7	5.9	17.0	18.4	20.9	23 3.25	+ 0.36	13.01	17 23 16.62	20.07
	* — 38° 33′	31	. .	. .	. .	8.0	9.3	10.8	12.3	13.8	. .	. .	. .	26 10.84	0.48	13.01	17 26 24.33	21.36
	B. A. C. 5932	32	43.3	45.8	47.4	59.5	0.7	2.3	3.7	5.1	17.5	19.1	21.7	27 2.37	0.42	13.01	17 27 15.80	21.36
	B. A. C. 5960	†33	43.0	45.3	46.6	57.9	59.0	0.4	1.8	3.0	14.5	15.9	18.2	31 0.51	0.36	13.02	17 31 13.89	20.18
	B. A. C. 5964	34	40.2	42.7	44.0	55.2	56.4	57.8	59.4	0.6	12.0	13.3	15.7	31 57.94	+ 0.36	13.02	17 32 11.32	20.19
	B. A. C. 5980	35	. .	. .	. .	29.8	31.1	32.5	33.7	35.0	46.5	47.8	50.2	34 38.32	— 5.52	13.02	17 34 45.82	20.27
	B. A. C. 6011	36	56.3	58.8	0.1	11.3	12.6	14.0	15.5	16.7	28.2	29.4	31.9	39 14.07	+ 0.36	13.03	17 39 27.46	20.31
95	Herculis, (1st *)	37	17.9	20.1	21.4	. .	. .	. .	. .	. .	46.8	48.0	50.1	55 34.05	0.04	13.05	17 55 47.14	13.54
95	Herculis, (2d *)	38	. .	. .	. .	31.2	32.1	33.4	34.7	35.9	. .	. .	. .	55 34.46	0.13	13.05	17 55 47.64	13.54
70	Ophiuchi, (1st *)	39	10.2	12.3	13.5	. .	. .	. .	. .	. .	37.0	38.3	40.1	58 25.23	0.12	13.06	17 58 38.41	15.72
70	Ophiuchi, (2d *)	40	. .	. .	. .	23.5	24.5	25.7	26.9	27.8	. .	. .	. .	58 25.68	0.21	13.06	17 58 38.95	15.72
	Weisse 18	41	13.3	15.2	16.6	26.1	27.2	28.4	29.7	39.7	40.3	41.4	43.3	2 28.38	+ 0.16	13.06	18 2 41.60	— 15.72
δ	Ursæ Minoris	42	54.0	27.0	50.0	30.0	46.3	7.5	28.0	44.5	28.0	48.0	22.0	16 7.75	— 1.34	13.08	. . . .	+ 70.84
1	Aquilæ	†43	23.9	25.9	27.2	36.8	37.7	38.9	40.0	41.1	50.9	52.0	54.1	27 38.95	+ 0.21	13.10	18 27 52.26	— 16.98
	O. Arg. S. 18505	44	35.4	37.1	38.5	39.9	42.2	. .	49.0	51.6	53.1	54.5	55.9	31 15.72	0.05	13.10	18 31 28.87	19.22
	O. A. S. 18506, (1st *)	45	2.5	4.5	5.8	. .	. .	. .	. .	. .	32.1	33.4	35.5	31 18.97	0.27	13.10	18 31 32.34	19.22
	O. A. S. 18506, (2d *)	46	. .	. .	. .	16.8	17.9	19.2	20.6	21.8	. .	. .	. .	31 19.26	+ 0.36	13.10	18 31 32.72	— 19.22
	O. Arg. N. 18534	47	40.5	51.6	55.5	26.5	30.0	33.5	37.5	40.3	12.6	16.7	23.7	36 33.49	— 0.22	13.11	18 36 46.38	+ 0.54
	* + 72° 15′	48	. .	. .	. .	2.7	6.1	9.8	13.5	17.3	. .	. .	. .	38 9.88	— 0.06	13.11	18 38 22.93	+ 0.46
	Dorpat 2391	49	57.7	59.8	1.2	10.7	11.8	12.9	14.2	15.2	24.7	26.0	28.0	41 12.93	+ 0.20	13.11	18 41 26.24	— 16.76
σ	Sagittarii	50	24.2	26.4	27.7	38.5	39.5	40.8	42.1	43.3	54.2	55.5	57.6	46 40.89	+ 0.31	+13.12	18 46 54.32	— 19.32

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 15, 17.9	+ 13.05	+ 0.080	+ 0.170

2–3. Unsteady.
33. Many stars in the field.
43. Blurred.

s.
July 15, 15h. to 20h. n. = — 0.25.
15–16, 5h. to 8h. — 0.15.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 15	Victoria	1	47.5	49.5	50.9	..	..	..	..	..	14.6	15.8	17.8	56 2.68	+ 0.17	+13.13	18 56 15.98	..
Y.	O. Arg. S. 19341	2	49.6	51.9	53.3	4.3	5.4	6.7	8.0	9.3	20.3	21.6	23.8	8 6.75	0.33	13.15	19 8 20.23	— 19.61
	ω Aquilæ	3	1.2	3.0	4.2	14.0	15.0	16.2	17.4	18.6	28.4	29.6	31.8	11 16.31	0.12	13.15	19 11 29.58	14.94
	Eunomia	4	3.6	5.7	7.1	17.4	18.4	19.8	21.0	22.2	32.7	33.9	36.2	23 19.82	0.29	13.17	19 23 33.28	..
	O. Arg. S. 19674	5	50.1	52.4	53.6	4.0	5.1	6.4	7.7	8.7	19.2	20.4	22.5	24 6.37	0.29	13.17	19 24 19.83	18.69
	κ Aquilæ	6	9.8	11.8	13.0	22.6	23.7	24.9	26.0	27.2	36.2	37.9	39.9	29 24.86	0.21	13.18	19 29 38.25	16.86
	β Orionis	7	32.4	34.4	35.8	45.5	46.4	47.7	48.9	49.9	59.5	0.7	2.8	7 47.64	0.19	13.57	5 8 1.40	12.71
R.	β Tauri	†8	13.2	15.1	16.4	27.5	28.5	29.9	31.2	32.5	43.5	44.9	47.2	17 29.99	0.11	13.52	5 17 43.62	16.96
	α Orionis	9	21.2	23.1	24.4	33.9	35.1	36.1	37.4	38.5	48.2	49.2	51.5	47 36.23	0.15	13.54	5 47 49.92	14.39
16	Sun I	10	19.4	21.4	22.8	33.0	33.9	35.3	36.4	37.5	48.0	49.2	51.4	43 35.30	0.12	13.61	7 43 49.03	..
	Sun II	11	35.0	37.3	38.6	48.8	49.9	51.3	52.5	53.5	3.9	5.2	7.3	45 51.21	+ 0.12	13.61	7 46 4.94	..
	b Ophiuchi	12	..	..	..	..	..	..	27.0	29.7	31.0	32.6	33.9	18 30.84	— 36.54	13.95	17 18 8.25	18.85
	c^2 Ophiuchi	13	41.0	43.0	44.5	54.8	55.9	57.3	58.5	59.6	10.2	11.4	13.7	22 57.26	+ 0.30	13.96	17 23 11.52	18.85
	α Ophiuchi	14	11.2	13.2	14.5	24.3	25.3	26.5	27.7	28.8	38.7	40.0	42.0	28 26.56	0.12	13.96	17 28 40.64	14.53
	o Serpentis	15	20.8	22.7	24.1	33.8	34.7	36.0	37 3	38.4	48.3	49.4	51.5	33 36.09	0.23	13.96	17 33 50.28	17.43
	Moon I	16	20.0	22.0	23.4	34.0	35.0	36.5	37.8	38.9	49.5	50.8	53.1	38 36.45	+ 0.27	13.96	17 38 50.68	..
	μ Herculis	17	..	..	..	..	..	..	31.6	34.0	35.6	37.1	38.7	41 35.40	— 37.98	13.97	17 41 11.39	12.60
	4 Sagittarii	18	3.1	5.2	6.5	17.0	18.1	19.5	20.8	21.9	32.5	33.8	36.0	51 19.49	+ 0.30	13.97	17 51 33.76	18.94
	95 Herculis, (1st *)	19	54.4	55.8	57.1	58.5	1.0	..	5.5	8.1	9.5	10.9	12.3	55 33.31	— 0.17	13.97	17 55 47.11	13.54
	95 Herculis, (2d *)	20	17.6	19.7	21.0	31.3	32.3	33.6	34.7	36.0	46.3	47.6	49.8	55 33.63	+ 0.08	13.97	17 55 47.68	13.54
	μ Sagittarii	21	12.0	13.9	15.3	25.4	26.5	27.8	29.0	30.3	40.3	42.0	44.2	5 27.88	0.28	13.98	18 5 42.14	18.58
	δ Ursæ Minoris	22	54.0	27.5	49.0	27.5	45.5	6.0	26.0	44.0	25.5	45.0	20.5	16 6.41	1.34	13.99	..	..
	O. Arg. S. 18577	23	28.6	30.6	31.8	41.9	42.9	44.4	45.5	46.7	56.8	58.0	0.2	34 44.31	+ 0.27	14.00	18 34 58.58	18.36
	O. Arg. S. 18584	24	..	..	..	20.3	21.5	23.6	39.5	42.1	43.4	44.8	46.3	35 35.16	— 27.30	14.00	18 35 21.86	18.35
	56 Aquilæ, (1st *)	25	..	..	..	14.5	15.6	16.8	17.9	19.0	..	..	..	39 16.76	+ 0.22	14.00	18 39 30.98	16.18
	56 Aquilæ, (2d *)	26	..	..	..	29.5	30.6	32.7	47.7	50.3	51.5	52.8	54.2	39 43.66	— 25.86	14.00	18 39 31.80	16.18
	σ Sagittarii	27	23.4	25.4	26.9	37.6	38.6	40.0	41.4	42.4	53.1	54.5	56.7	46 40.00	+ 0.32	14.01	18 46 54.33	19.33
	Victoria	28	59.3	1.1	2.5	12.2	13.3	14.5	15.6	16.7	26.0	27.4	29.5	55 14.37	+ 0.21	14.01	18 55 28.59	..
	Dorpat 2447	29	..	..	..	20.0	21.1	22.3	23.5	24.5	34.1	35.4	37.4	59 27.29	— 4.78	14.01	18 59 36.52	16.26
	Dorpat 2492	30	11.9	13.8	15.1	24.5	25.6	26.8	28.0	29.1	38.7	39.8	41.9	11 26.84	+ 0.17	14.02	19 11 41.03	16.02
	Eunomia	31	..	..	..	12.9	14.1	15.3	16.6	17.7	28.1	29.3	31.6	22 20.70	— 5.09	14.03	19 22 29.64	18.70
	κ Aquilæ	32	9.0	11.1	12.3	21.9	22.8	24.0	25.2	26.3	36.0	37.2	39.3	29 24.10	+ 0.20	14.03	19 29 38.33	16.86
17	η Serpentis	33	49.9	52.2	53.2	2.5	3.5	4.8	5.9	7.0	16.6	17.9	19.9	14 4.85	0.18	15.08	18 14 20.11	16.18
	1 Aquilæ	34	21.8	23.9	25.1	34.7	35.6	36.9	38.0	39.1	49.0	50.1	52.2	27 36.95	0.21	15.10	18 27 52.26	16.99
	φ Sagittarii	35	41.8	43.9	45.4	56.0	57.2	58.6	59.8	1.0	11.9	13.2	15.5	36 58.57	0.32	15.11	18 37 14.00	19.45
	29 Sagittarii	36	8.8	10.8	12.2	22.4	23.4	24.7	25.9	27.1	37.3	38.6	40.8	41 24.73	0.27	15.11	18 41 40.11	18.50
	Moon I	37	5.8	7.8	9.2	19.5	20.7	22.1	23.4	24.5	35.2	36.5	38.6	42 22.12	0.27	15.11	18 42 37.50	..
	σ Sagittarii	38	22.3	24.3	25.7	36.5	37.5	38.8	40.2	41.4	52.0	53.4	55.6	46 38.88	0.31	15.12	18 46 54.31	19.33
	ξ^2 Sagittarii	39	9.8	12.0	13.1	23.6	24.6	25.8	27.1	28.2	38.6	39.8	42.0	49 25.87	0.28	15.12	18 49 41.27	18.60
	π Sagittarii	40	13.3	15.3	16.6	26.9	27.9	29.3	30.5	31.6	42.0	43.3	45.8	1 29.32	+ 0.28	15.13	19 1 44.73	18.56
Y.	α Orionis	†41	..	..	..	54.3	55.5	57.6	13.0	15.3	16.6	17.9	19.2	48 8.68	— 26.10	7.45	..	14.43
18	ω Aquilæ	42	7.1	9.0	10.3	20.2	21.2	22.5	23.6	24.6	34.4	35.6	37.8	11 22.39	+ 0.13	7.07	19 11 29.59	14.96
	κ Aquilæ	43	16.0	18.0	19.2	28.7	29.8	31.1	32.2	33.3	43.0	44.2	46.2	29 31.06	0.22	7.06	19 29 38.34	16.88
	γ Aquilæ	†44	28.6	30.7	32.0	41.7	42.7	43.9	45.2	46.3	56.0	57.2	59.4	39 43.97	0.14	7.05	19 39 51.16:	15.14
	Moon I	45	5.0	7.2	8.5	18.6	19.8	21.0	22.3	23.5	33.8	35.0	37.2	46 21.09	0.27	7.05	19 46 28.41	..
	Moon II	†46	29.1	31.3	32.7	42.9	44.0	45.2	46.4	47.6	58.0	59.0	1.5	48 45.25	+ 0.27	7.05	19 48 52.60	..
	Dorpat 2613 (1st *)	47	17.4	18.8	20.0	21.3	23.4	..	24.6	27.2	28.4	29.6	30.8	54 54.15	— 0.10	7.05	19 55 1.10	15.16
	Dorpat 2613 (2d *)	48	38.9	40.8	42.1	51.7	52.7	53.9	55.0	56.1	5.9	7.2	9.4	54 53.97	+ 0,14	7.05	19 55 1.16	— 15.16
	λ Ursæ Minoris	49	..	..	..	42.0	33.5	36.5	37.5	33.0	..	..	..	0 36.50	— 2.22	+ 7,04	..	+ 192.26

8. Faint.
41. Faint.
44. Unsteady.
46. Limb imperfect; correction for defective illumination = + 0.03.

	s.
July 16, 5h. to 8h. n.	= — 0.15.
17h. to 19h.	0.25.
17, ...	0.25.
18, ...	0.27.
18–19, 5h. to 10h.	— 0.17.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
July 16, 13.9	+ 13.83	+ 0,036	+ 0.170
17, 18.5	15.10	+ 0.055	0.170
18, 19.8	+ 7.05	— 0.029	+ 0.180

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 18	a^2	Capricorni	1	11.7	13.7	15.0	24.8	25.8	27.1	28.2	29.3	39.2	40.4	42.4	10 27.05	+ 0.25	+ 7.04	20 10 34.34	— 17.37
Y.		Lalande 38208	2	0.9	2.9	4.3	13.8	14.9	16.1	17.2	18.3	27.9	29.1	31.3	16 16.06	0.18	7.04	20 16 23.28	16.19
	ρ	Capricorni	3	47.0	49.2	50.4	0.5	1.5	2.8	4.1	5.2	15.2	16.6	18.7	21 2.84	0.28	7.03	20 21 10.15	17.79
R.	β	Orionis	4	39.4	41.3	42.6	52.2	53.4	54.5	55.7	56.7	6.5	7.7	9.7	7 54.52	0.21	6 73	5 8 1.46	12.78
	β	Tauri	5	20.0	22.0	23.5	34.2	35.4	36.7	38.1	39.3	50.3	51.6	54.0	17 36.83	0.11	6.73	5 17 43.67	17.04
	a	Orionis	6	28.0	30.1	31.4	40.9	41.9	43.0	44.0	45.3	55.1	56.2	58.3	47 43.11	0.16	6.71	5 47 49.98	14.45
19		Sun I	7	29.6	31.7	33.0	43.3	44.4	45.6	46.8	48.0	58.3	59.5	1.5	55 45.61	0.13	6.65	7 55 52.39	- -
		Sun II	8	44.9	47.0	48.5	58.5	59.7	1.0	2.2	3.3	13.6	14.9	17.1	58 0.97	0.13	6.65	7 58 7.75	- -
	a	Hydræ	9	33.6	35.6	36.9	46.5	47.6	48.7	49.9	50.9	0.5	1.9	3.9	20 48.73	0.21	6.61	9 20 55.55	13.03
	a^2	Capricorni	10	12.4	14.5	15.8	25.5	26.6	27.8	29.0	30.1	40.0	41.1	43.3	10 27.83	0.25	6.29	20 10 34.37	17.38
	ρ	Capricorni	†11	25.7	27.1	28.4	29.6	32.1	47.7	49.8	51.2	16.0	17.3	19.4	20 47.66	16.13	6.29	20 21 10.08	17.81
	a	Orionis	12	28.4	30.3	31.6	41.2	42.2	43.5	44.7	45.7	55.4	56.6	58.7	47 43.48	0.15	6.42	5 47 50.05	14.47
	a	Canis Majoris	13	47.9	50.0	51.2	1.0	2.1	3.4	4.5	5.6	15.8	17.0	19.3	39 3.44	0.25	6.41	6 39 10.10	11.43
20		Sun I	14	9.8	11.9	13.2	43.3	44.4	45.8	47.0	48.1	58.5	59.6	1.9	59 45.77	0.11	6.41	7 59 52.29	- -
Y.		Sun II	15	- -	47.0	48.4	58.4	59.6	0.8	2.0	3.3	13.5	14.8	- -	2 0.87	0.12	6.41	8 2 7.40	- -
	a	Leonis	16	47.0	49.2	50.5	0.2	1.2	2.4	3.6	4.7	14.6	15.8	17.8	1 2.45	0.14	6.40	10 1 8.99	14.22
	γ	Leonis	17	7.1	9.2	10.6	20.6	21.7	23.0	24.2	25.3	35.7	37.0	39.1	12 23.05	0.11	6.40	10 12 29.56	14.68
		B. A. C. 7413	18	53.3	55.5	56.9	7.2	8.3	9.6	10.9	12.0	22.6	23.9	26.1	15 9.66	0.29	6.37	21 15 16.32	17.83
		O. Arg. S. 21374	19	39.3	41.6	42.9	53.5	54.6	55.8	57.0	- -	8.9	10.2	12.3	17 55.61	0.54	6.37	21 18 2 52	17.90
	β	Aquarii	20	6.0	8.0	9.2	18.7	19.7	21.0	22.2	- -	32.7	34.0	36.2	24 20.77	+ 0.43	6.37	21 24 27.57	16.44
	β	Cephei	21	9.0	14.6	18.5	46.2	48.9	51.8	55.4	58.6	27.0	30.5	36.4	26 52.45	— 0.08	6.37	21 26 58.74	8.38
	ξ	Aquarii	22	12.7	14.7	15.9	25.5	26.5	27.7	29.0	30.0	39.7	41.0	43.0	30 27.79	+ 0.22	6.37	21 30 34.38	16.58
		O. Arg. S. 21588	23	15.9	18.1	19.4	29.9	30.9	32.2	33.5	34.7	45.3	46.7	48.9	35 32.32	+ 0.30	6.37	21 35 38.99	17.69
	11	Cephei	24	8.5	14.6	18.1	47.4	50.4	53.8	57.6	0.9	29.7	33.4	39.1	39 53.95	— 0.08	6.37	21 40 0.24	8.86
		O. Arg. S. 21710	25	10.3	12.3	13.7	23.8	24.8	26.0	27.3	28.5	38.7	40.0	42.1	45 26.14	+ 0.27	6.37	21 45 32.78	17.19
		Moon II	26	42.8	44.9	46.1	56.1	57.1	58.3	59.5	0.7	10.6	11.8	14.0	51 58.35	0.21	6.37	21 52 4.93	- -
	a	Aquarii	27	30.0	32.0	33.3	42.5	43.5	44.9	46.0	47.0	56.8	58.0	0.0	58 44.91	0.18	6.37	21 58 51.46	15.97
		B. A. C. 7702	28	6.8	9.2	10.5	22.4	23.6	25.0	26.4	27.6	39.3	40.7	43.2	0 24.97	0.38	6.37	22 0 31.72	18.11
		Lacaille 9047	29	34.1	36.7	38.4	50.5	51.7	52.3	54.9	56.1	8.5	10.0	12.8	3 52.36	0.41	6.37	22 3 59.14	18.43
	θ	Aquarii	30	21.2	23.2	24.5	34.2	35.2	36.4	37.6	38.5	48.4	49.4	51.5	9 36.37	0.22	6.37	22 9 42.96	16.32
	γ	Aquarii	31	19.9	21.8	23.1	32.5	33.7	34.8	36.0	37.0	46.6	47.7	50.1	14 34.84	0.19	6.37	22 14 41.40	15.96
	π	Aquarii	32	1.8	3.8	4.9	14.2	15.3	16.5	17.7	18.7	28.4	29.8	31.8	18 16.63	0.18	6.37	22 18 23.18	15.83
R.	a	Orionis	33	28.3	30.2	31.6	40.1	42.2	43.4	44.7	45.7	55.4	56.5	58.6	47 43.34	0.15	6.60	- - - -	14.49
21		Sun I	34	29.1	31.4	32.5	42.6	43.7	45.0	46.3	47.5	57.5	59.1	1.3	3 45.09	0.11	6.66	8 3 51.86	- -
		Sun II	35	44.4	46.3	47.6	57.9	58.9	0.1	1.5	2.6	12.9	14.1	16.2	6 0.23	0.11	6.66	8 6 7.00	- -
	λ	Aquarii	36	12.4	14.5	15.7	25.5	26.4	27.5	28.9	30.0	39.5	40.7	42.9	45 27.64	0.21	6.72	22 45 34.57	16.03
	δ	Aquarii	37	6.9	8.8	10.2	20.1	21.1	22.3	23.4	24.5	34.7	35.9	38.0	47 22.35	0.25	6.72	22 47 29.32	16.28
		Moon II	38	23.3	25.4	26.6	36.3	37.5	38.7	39.9	41.0	50.8	52.0	54.1	50 38.69	0.19	6.72	22 50 45.60	- -
	γ	Piscium	39	- -	50.3	51.6	1.3	2.3	3.5	4.7	5.8	15.3	16.4	- -	10 3.47	0.18	6.71	23 10 10.36	15.85
	κ	Piscium	†40	39.1	41.1	42.2	52.0	53.0	54.0	55.1	56.2	6.2	7.2	9.3	19 54.13	0.18	6.70	23 20 1.01	15.65
Y.	a	Orionis	†41	28.3	30.3	31.5	41.2	42.2	43.4	44.6	45.7	55.3	56.6	58.6	47 43.43	0.15	6.54	5 47 50.12	14.51
22		Sun I	42	28.1	30.2	31.6	41.8	42.9	44.1	45.4	46.6	56.8	58.0	0.2	7 44.15	0.11	6.50	8 7 50.76	- -
		Sun II	43	43.0	45.1	46.5	56.7	57.7	58.8	0.1	1.3	11.6	12.8	15.0	9 58.97	0.11	6.50	8 10 5.58	- -
	κ	Piscium	†44	39.8	41.7	43.0	52.3	53.4	54.4	55.7	56.7	6.7	7.7	9.7	19 54.65	+ 0.18	6.24	23 20 1.07	15.67
	ι	Piscium	45	- -	- -	- -	- -	- -	54.3	55.3	56.4	6.1	7.4	9.3	33 1.47	— 7.06	6.23	23 33 0.64	15.70
		Moon II	46	32.3	34.5	35.7	45.5	46.5	47.7	49.0	50.2	59.7	1.0	3.2	47 47.75	+ 0.17	6.23	23 47 54.15	- -
	ω	Piscium	47	1.6	3.4	4.8	14.4	15.4	16.7	17.9	19.0	28.7	29.8	31.8	52 16.68	0.16	6.23	23 52 23.07	15.57
	a	Andromedæ	48	2.0	4.2	5.8	16.4	17.5	18.9	20.2	21.4	32.4	33.7	36.0	1 18.95	0.09	6.23	0 1 25.27	15.86
	γ	Pegasi	49	55.5	57.5	59.0	8.7	9.7	11.0	12.3	13.4	23.3	24.6	26.6	6 11.05	0.13	6.22	0 6 17.40	15.62
	d	Piscium	50	17.6	19.7	21.2	30.5	31.6	32.9	34.0	35.1	44.9	46.0	48.1	13 32.87	+ 0.13	+ 6.22	0 13 39.22	— 15.50

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 19, 11.0	+ 6.56	— 0.029	+ 0.180
20, 15.0	6.39	— 0.003	- -
21, 23.1	6.71	+ 0.003	- -
22, 20.8	+ 6.28	— 0.017	+ 0.180

11. Faint; through clouds.
40. Faint.
41. Through haze.
44. Through thick haze.

		s.
July 19,	5h. to 10h. n.	= — 0.17.
	20h. to 21h.	0.27.
19–20,	5h. to 23h.	0.22.
21,	- - -	= 0.22.

July 21. Observations made through clouds and haze.
July 22. Stars unsteady.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 22	Polaris	†1	47.0	41.0	25.0	18.0	51.0	..	..	..	..	..	..	47 36.40	+22 21.84	+ 6.21	. . .	— 119.02
R.	α Orionis	†2	29.0	30.7	32.2	41.5	42.6	43.8	45.2	46.2	55.8	56.9	59.0	47 43.90	0.15	6.09	. . .	14.54
23	Sun I	3	27.0	29.1	30.4	40.4	41.5	42.9	44.3	45.3	55.3	56.8	59.1	11 42.92	0.11	6.08	8 11 49.11	. .
	Sun II	4	41.8	43.6	45.1	55.3	56.3	57.5	58.7	59.8	10.2	11.5	13.7	13 57.59	0.11	6.08	8 14 3.78	. .
	d Piscium	†5	18.0	20.0	21.3	30.8	31.9	33.2	34.4	35.4	45.1	46.2	48.4	13 33.15	+ 0.15	5.98	0 13 39.28	15.53
	44 Piscium	6	..	..	..	20.9	21.9	22.9	24.1	25.0	34.7	35.9	38.0	18 27.92	— 4.79	5.98	0 18 29.11	15.41
	12 Ceti	7	47.7	50.0	51.1	0.5	1.4	2.6	3.9	5.0	14.8	16.0	18.0	23 2.82	+ 0.20	5.98	0 23 9.00	15.27
	β Ceti	†8	26.6	28.6	30.0	40.0	40.9	42.2	43.4	44.5	55.0	56.0	58.1	36 42.30	+ 0.26	5.98	0 36 48.54	14.90
	δ Piscium	9	..	21.7	22.9	32.2	33.2	34.6	35.5	36.8	46.3	47.9	49.9	41 36.10	— 1.34	5.98	0 41 40.74	15.46
	Moon II	10	46.5	48.4	49.7	59.7	0.7	1.9	3.1	4.2	14.2	15.3	17.4	44 1.92	+ 0.15	5.98	0 44 8.05	. .
	ε Piscium	11	35.0	37.0	38.2	47.8	48.9	50.1	51.3	52.3	2.0	3.0	5.1	55 50.06	0.15	5.98	0 55 56.19	15.43
	e Piscium	12	3.6	5.8	6.8	16.4	17.4	18.8	19.9	20.9	30.6	31.8	33.9	1 18.72	0.16	5.98	1 1 24.86	15.34
	Polaris	†13	..	..	..	29.5	9.0	58.0	45.0	24.0	..	..	..	9 57.10	0.32	5.98	. . .	— 119.83
Y. 25	ε Ursæ Minoris	14	5.0	19.5	28.8	39.2	47.2	55.4	4.5	12.4	23.7	32.4	47.4	59 55.95	0.75	5.10	17 0 1.80	+ 25.00
	O. Arg. N. 16862	15	30.6	33.7	35.8	50.9	52.3	54.2	56.2	57.7	13.0	15.0	18.4	4 54.35	0.19	5.10	17 4 59.64	— 8.46
	α Herculis (1st *)	16	9.3	11.4	12.7	22.5	23.5	24.7	25.9	27.0	37.0	38.3	40.3	8 24.78	+ 0.17	5.10	17 8 30.05	14.18
	α Herculis (2d *)	17	47.9	49.4	50.6	51.7	54.2	..	56.1	58.7	59.9	1.3	2.6	8 25.24	— 0.08	5.10	17 8 30.26	14.18
	ξ Ophiuchi	18	..	..	..	2.5	3.9	6.0	22.3	24.9	26.0	27.5	29.0	13 17.76	27.60	5.10	17 12 55.26	18.35
	Weisse 254	19	..	..	..	34.9	36.0	38.2	53.4	55.8	57.0	58.3	59.7	15 49.16	— 25.97	5.10	17 15 28.29	16.53
	O. Arg. S. 16816	20	52.3	54.3	55.7	5.7	6.9	8.2	9.4	10.5	20.9	22.3	24.2	20 8.22	+ 0.24	5.10	17 20 13.56	18.37
	B. A. C. 5914	21	52.3	54.6	56.0	7.4	8.6	9.9	11.5	12.6	24.1	25.6	28.0	24 9.92	0.29	5.10	17 24 15.31	20.24
	O. Arg. S. 16990	22	50.8	53.1	54.5	5.3	6.5	7.8	9.0	10.4	21.4	22.7	24.9	29 7.85	0.26	5.10	17 29 13.21	19.51
	B. A. C. 5983	23	28.7	31.0	32.4	43.3	44.6	45.9	47.3	48.5	59.6	1.0	3.3	34 45.96	0.27	5.10	17 34 51.33	19.82
	O. Arg. S. 17209	24	7.2	9.5	10.7	20.9	21.9	23.3	24.5	25.6	36.0	37.1	39.3	39 23.27	0.24	5.10	17 39 28.61	18.45
	* — 28° 34′	25	8.4	10.6	12.0	23.0	24.1	25.4	26.7	28.0	38.9	40.3	42.5	42 25.45	0.26	5.10	17 42 30.81	19.61
	* — 28° 32′	26	57.8	59.9	1.5	12.3	13.4	14.9	16.2	17.2	28.2	29.5	31.8	43 14.79	0.26	5.10	17 43 20.15	19.61
	B. A. C. 6057	27	3.8	6.2	7.5	18.9	20.1	21.5	22.9	24.2	35.5	37.0	39.4	47 21.55	0.28	5.10	17 47 26.93	20.27
	B. A. C. 6074, (1st *)	28	3.0	5.2	6.7	17.7	18.8	20.2	21.6	22.8	34.0	35.4	37.8	50 20.29	+ 0.27	5.10	17 50 25.66	19.90
	B. A. C. 6074, (2d *)	29	39.0	40.5	42.0	43.3	46.2	..	55.7	58.3	59.8	1.3	2.8	50 20.89	0.00	5.10	17 50 25.99	19.90
	O. A. S. 17506, (2d *)	†30	..	..	..	20.0	21.2	23.4	39.7	42.6	43.8	45.3	46.6	54 35.33	— 28.01	5.10	17 54 12.42	18.81
	* — 22° 50′	31	23.9	25.9	27.3	37.7	38.8	40.1	41.3	42.4	53.0	54.3	56.5	55 40.10	+ 0.25	5.10	17 55 45.45	18.82
	O. Arg. S. 17681	32	2.5	4.6	5.9	16.1	17.2	18.5	19.7	20.9	21.3	22.5	24.7	0 18.54	+ 0.24	5.10	18 0 23.88	18.59
	Dorpat 2281	33	..	..	..	44.3	45.1	46.3	47.6	48.7	58.3	59.5	1.6	2 51.42	— 4.79	5.10	18 2 51.73	15.55
	μ Sagittarii	34	20.6	22.7	24.1	34.3	35.4	36.6	37.8	38.9	49.3	50.5	52.8	5 36.64	+ 0.24	5.10	18 5 41.98	18.57
	* — 28° 25′	35	42.4	44.0	45.5	46.7	49.4	..	..	..	..	..	..	11 45.60	37.98	5.10	18 12 28.68	19.66
	B. A. C. 6220	36	5.8	7.9	9.5	20.2	21.4	22.7	24.1	25.2	36.3	37.6	40.0	13 22.79	0.26	5.10	18 13 28.15	19.67
	δ Ursæ Minoris	37	..	..	..	32.0	50.0	10.0	29.0	47.5	..	..	..	16 9.70	2.49	5.10	. . .	72.99
	B. A. C. 6286	38	56.1	58.3	59.5	10.0	11.0	12.4	13.6	14.7	25.2	26.5	28.8	22 12.37	0.25	5.10	18 22 17.72	18.91
	B. A. C. 6310	39	12.2	14.3	15.7	26.8	27.9	29.4	30.8	32.0	53.4	54.6	57.0	25 29.46	0.28	5.10	18 25 34.84	20.08
1	Aquilæ	40	31.7	33.8	35.0	44.7	45.7	46.9	48.1	49.1	58.8	0.0	2.1	27 46.90	+ 0.20	5.10	18 27 52.20	16.99
	Victoria	41	..	..	..	5.3	6.4	7.6	8.8	9.9	19.6	20.7	22.7	49 12.62	— 4.80	5.10	18 49 12.92	. .
	O. Arg. S. 18939	42	12.9	15.3	16.7	27.7	28.9	30.1	31.4	32.7	43.7	45.0	47.3	52 30.15	+ 0.27	5.10	18 52 35.52	19.71
	Lalande 35497	43	..	..	..	..	..	..	35.0	37.5	39.0	40.2	41.5	55 38.64	— 35.46	5.10	18 55 8.28	18.32
ζ	Aquilæ	44	..	..	..	20.0	21.4	23.4	39.0	41.5	42.8	44.0	45.6	59 34.71	— 26.60	5.10	18 59 13.21	14.69
	B. A. C. 6568	45	40.3	42.5	43.8	54.9	56.1	57.5	58.8	59.9	11.2	12.5	14.7	5 57.47	+ 0.27	5.10	19 6 2.84	19.85
	* — 23° 48′	†46	46.5	48.6	50.0	0.3	1.5	2.7	3.9	5.2	15.6	17.0	19.2	11 2.77	0.27	5.10	19 11 8.12	18.92
δ	Aquilæ	47	22.2	24.0	25.3	34.7	35.7	37.0	38.1	39.1	48.8	50.0	52.0	18 36.99	0.19	5.10	19 18 42.28	15.93
	Weisse 719	48	2.5	4.5	5.8	15.5	16.5	17.7	18.9	20.0	29.8	31.0	33.0	29 17.75	0.21	5.10	19 29 23.06	17.29
	O. Arg. S. 19879	49	6.2	8.4	9.7	20.2	21.3	22.6	23.9	25.0	35.6	36.8	39.0	34 22.61	0.25	5.10	19 34 27.96	18.94
	O. Arg. S. 19909	50	13.9	16.0	17.3	27.7	28.8	30.0	31.4	32.5	43.2	44.4	46.6	36 30.16	+ 0.25	+ 5.10	19 36 35.51	— 18.75

1. Unsteady.
2. Faint.
5. Faint; through haze.
8. Blurred and unsteady.
13. Unsteady.
30. Larger of two.
46. Faint.

	s.
July 23 . . . . n. =	— 0.22.
25	— 0.09.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 23, 0.6	+ 5.98	— 0.006	+ 0.190
25, 21.0	+ 5.10	— 0.001	+ 0.190

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 25	(* 119) W. . . .	1	26.7	30.4	33.0	50.9	52.8	55.2	57.3	59.4	17.8	20.2	24.3	41 55.27	+ 0.22	+ 5.10	19 42 0.59	— 8.21
Y.	57 Aquilæ, (1st *) .	2	38.3	39.7	40.8	42.0	44.4	. .	45.0	47.5	48.7	50.0	51.3	47 14.77	— 0.04	5.10	19 47 19.83	17.03
	57 Aquilæ, (2d *) .	3	59.8	1.6	2.9	12.8	13.7	14.9	16.0	17.1	26.8	28.1	30.0	47 14.88	+ 0.20	5.10	19 47 20.18	17.03
	Dorpat 2613, (1st *)	4	19.3	20.8	22.0	23.2	25.6	. .	26.7	29.1	30.3	31.7	33.0	54 56.17	— 0.06	5.10	19 55 1.21	15.21
	Dorpat 2613, (2d *)	5	40.7	42.8	44.0	53.7	54.8	56.0	57.2	58.3	8.0	9.3	11.4	54 56.02	+ 0.18	5.10	19 55 1.30	15.21
	Weisse 1394 . .	6	. .	. .	. .	52.3	53.6	55.5	11.0	13.4	14.6	16.0	17.2	56 6.70	— 26.27	5.10	19 55 45.53	15.21
	O. Arg. S. 20246 .	7	15.2	17.3	18.7	29.2	30.2	31.5	33.0	34.0	44.6	45.8	48.1	59 31.60	+ 0.25	5.10	19 59 36.95	18.74
	Psyche	†8	50.5	52.3	53.6	3.9	5.0	6.1	7.3	8.4	. .	. .	. .	5 0.89	— 5.01	5.10	20 5 0.98	. .
	a^2 Capricorni . . .	9	13.8	15.8	17.0	27.0	28.0	29.2	30.4	31.4	41.4	42.5	44.7	10 29.20	+ 0.22	5.10	20 10 34.52	17.44
	Moon II . . .	10	42.7	44.8	46.1	56.2	57.3	58.5	59.8	0.8	11.3	12.3	14.5	35 58.57	0.17	5.09	2 36 3.83	. .
	α Ceti	11	52.4	54.3	55.6	5.2	6.2	7.4	8.5	9.7	19.3	20.4	22.5	55 7.41	0.19	5.09	2 55 12.69	14.84
	β Tauri	12	21.6	23.9	25.3	36.1	37.2	38.6	39.8	41.1	52.0	53.3	55.8	17 38.61	0.17	5.09	5 17 43.87	17.24
R.	α Orionis	13	30.0	31.8	33.1	42.7	43.6	44.9	46.1	47.2	56.8	58.0	0.0	47 44.93	+ 0.18	5.05	5 47 50.16	14.60
	α Canis Majoris . .	14	. .	. .	. .	2.5	3.6	4.9	6.1	7.2	17.3	18.5	20.7	39 10.10	— 4.96	5.05	6 39 10.19	11.53
26	Sun I	15	9.6	11.7	13.0	33.0	34.2	35.4	36.7	37.8	48.1	49.4	51.4	23 35.48	+ 0.17	5.05	8 23 40.70	. .
	Sun II	16	33.7	35.9	37.2	47.3	48.3	49.6	50.8	52.0	2.4	3.5	5.7	25 49.67	+ 0.17	5.05	8 25 54.89	. .
	α Ceti	17	. .	. .	. .	5.2	6.2	7.5	8.7	9.7	19.3	20.6	22.5	55 12.46	— 4.77	5.07	2 55 12.76	14.87
	Moon II . . .	†18	55.7	57.8	59.1	9.4	10.5	11.7	13.0	14.1	24.6	25.8	28.0	32 11.79	+ 0.17	5.07	3 32 17.03	. .
	η Tauri	†19	5.2	7.3	8.7	. .	. .	. .	54.5	57.2	58.5	59.8	1.5	39 39.09	— 17.38	5.07	3 39 26.78	16.74
Y. 27	α Tauri	20	26.6	28.0	29.4	30.6	33.0	. .	. .	. .	. .	. .	. .	27 29.52	+ 34.72	5.16	4 28 9.40	15.90
	Moon II . . .	21	. .	. .	. .	. .	22.8	24.1	25.4	26.6	37.0	38.3	40.5	28 30.67	— 6.34	5.10	4 28 29.43	. .
R.	α Orionis	22	29.8	31.8	33.0	42.7	43.7	44.9	46.0	47.0	56.9	58.1	0.0	47 44.90	+ 0.18	5.10	5 47 50.18	14.64
	α Canis Majoris . .	23	49.1	51.4	52.6	2.6	3.6	4.9	6.0	7.1	17.1	18.5	20.6	39 4.86	+ 0.21	5.10	6 39 10.17	11.56
28	Sun I	†24	. .	. .	. .	. .	. .	. .	59.0	1.2	2.8	4.0	5.5	32 2.50	— 35.39	5.10	8 31 32.21	. .
	Sun II	25	25.0	27.0	28.2	38.5	39.3	40.7	42.0	43.2	53.1	54.5	56.7	33 40.75	+ 0.17	5.10	8 33 46.02	. .
Y.	β Orionis	26	. .	. .	. .	8.1	9.4	11.5	26.8	29.2	30.4	31.8	33.2	8 22.55	— 26.09	5.11	5 8 1.57	13.02
	β Tauri	27	21.5	23.8	25.3	36.0	37.2	38.6	39.9	41.1	52.1	53.5	55.8	17 38.62	+ 0.19	5.11	5 17 43.92	17.33
	α Canis Majoris . .	28	49.4	51.5	52.7	17.2	18.4	20.6	36.4	38.9	40.3	41.6	42.9	39 20.90	— 15.75	5.11	6 39 10.26	11.58
29	Sun I	29	6.0	8.0	9.2	19.5	20.5	21.7	22.9	24.1	34.4	35.5	37.8	35 21.78	+ 0.19	5.11	8 35 27.08	. .
	Sun II	30	19.5	21.6	22.9	33.0	34.1	35.3	36.5	37.7	47.8	49.2	51.2	37 35.35	0.19	5.11	8 37 40.65	. .
	α Leonis	31	. .	. .	. .	1.4	2.4	3.7	4.9	5.9	. .	. .	. .	1 3.66	0.24	5.11	10 1 9.01	14.22
	β Leonis	32	48.1	50.2	51.5	1.3	2.4	3.6	4.9	5.9	16.0	17.1	19.2	42 3.65	+ 0.19	5.11	11 42 8.95	13.88
	Polaris, S. P. . .	33	. .	. .	. .	40.5	0.5	12.0	24.5	41.0	. .	. .	. .	10 11.60	— 7.19	5.11	. . . .	125.82
	μ Herculis . . .	34	49.2	51.4	. .	3.4	4.7	6.0	7.3	8.5	19.4	20.7	23.1	41 7.37	— 1.21	5.11	17 41 11.27	12.50
	Weisse 905 . . .	35	19.4	21.4	22.6	32.3	33.2	34.4	35.5	36.7	56.3	57.6	59.7	45 34.46	+ 0.24	5.11	17 45 39.81	16.83
	Dorpat 2245, (1st *)	36	46.5	48.0	49.3	50.5	53.0	. .	56.4	59.0	0.1	1.5	2.9	50 24.72	— 0.11	5.11	17 50 29.72	13.84
	Dorpat 2245, (2d *)	37	9.0	11.0	12.3	22.4	23.4	24.8	25.9	27.1	37.2	38.4	40.5	50 24.73	+ 0.14	5.11	17 50 29.98	13.84
	95 Herculis, (1st *) .	38	25.8	28.0	29.3	39.6	40.7	41.8	43.0	44.3	54.7	55.8	58.1	55 41.92	+ 0.12	5.11	17 55 47.15	13.47
	95 Herculis, (2d *) .	39	3.7	5.1	6.4	7.6	10.2	. .	14.9	17.5	18.7	20.2	21.6	55 42.29	— 0.14	5.11	17 55 47.56	13.47
	Weisse 18 . . .	40	21.3	23.2	24.5	. .	. .	. .	. .	. .	48.1	49.3	51.3	2 36.28	+ 0.17	5.11	18 2 41.56	15.69
	μ Sagittarii . . .	41	20.5	22.8	24.0	34.3	35.4	36.7	38.0	39.0	49.4	50.6	52.7	5 36.67	0.30	5.11	18 5 42.08	18.56
	O. Arg. S. 18015 .	42	26.9	29.1	30.4	40.5	41.4	42.7	43.9	45.0	55.2	56.5	58.7	10 42.75	0.29	5.11	18 10 48.15	18.24
	O. Arg. S. 18017 .	43	5.7	7.3	8.6	9.8	12.3	. .	15.7	18.3	19.5	20.9	22.2	10 44.03	0.04	5.11	18 10 49.18	— 18.24
	δ Ursæ Minoris . .	44	. .	. .	. .	32.5	50.0	11.2	31.0	49.0	. .	. .	. .	16 10.70	0.30	5.11	. . . .	+ 73.96
	O. Arg. S. 18248 .	45	43.3	45.5	46.7	56.7	57.8	59.0	0.3	1.4	11.5	12.7	14.8	19 59.06	0.29	5.11	18 20 4.46	— 18.16
	O. Arg. S. 18395 .	46	50.1	52.1	53.4	3.4	4.5	5.7	6.8	8.0	18.2	19.4	21.5	26 5.74	0.29	5.11	18 26 11.14	18.13
	O. Arg. S. 18486 .	47	54.3	56.4	57.6	8.0	9.1	10.4	11.6	12.8	23.4	24.8	26.8	30 10.47	0.32	5.11	18 30 15.90	18.90
	O. Arg. S. 18577 .	48	37.3	39.3	40.7	50.8	51.8	53.1	54.3	55.4	5.6	6.8	9.1	34 53.11	+ 0.29	5.11	18 34 58.51	18.37
	O. Arg. S. 18623 .	49	. .	. .	. .	. .	. .	. .	42.6	45.4	46.6	47.9	49.5	37 46.40	— 35.78	5.11	18 37 15.71	18.60
	* — 19° 18′ . .	†50	. .	. .	. .	50.4	51.4	52.6	53.8	55.0	5.0	6.4	8.4	41 57.88	— 4.96	+ 5.11	18 41 58.03	— 18.36

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 26, 16.8	+ 5.06	+ 0.001	+ 0.190
27, 5.7	5.10	0.000	. .
29, 14.8	+ 5.11	0.000	+ 0.200

8. Very faint.
18–19. Through haze.
24. Clouds.
50. Faint.

		s.
July 27,	. . . n. =	— 0.09.
28–29,	5h. to 14h.	0.07.
29,	17h. to 20h.	0.23.
	0h. to 2h.	0.29.
29–30,	5h. to 14h.	— 0.10.

r.

July 29, 20h. 15m. Image east 0.23. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 29	* — 7° 31′	1	14.3	15.6	16.8	18.0	20.3	..	20.9	23.3	24.5	25.9	27.1	46 50.67	— 0.01	+ 5.11	18 46 55.77	— 16.93
Y.	Victoria	2	45.3	47.2	48.5	58.2	59.2	0.3	1.5	2.6	12.4	13.6	15.6	47 0.40	+ 0.23	5.11	18 47 5.74	..
	Dorpat 2425, (1st *)	3	53.9	55.9	57.1	6.7	7.8	8.9	10.1	11.2	21.2	22.2	24.4	53 9.04	+ 0.24	5.11	18 53 14.39	17.03
	Dorpat 2425, (2d *)	4	32.7	34.2	35.4	36.6	38.9	..	39.6	42.3	43.4	44.7	46.0	53 9.38	0.00	5.11	18 53 14.49	17.03
	Dorpat 2434, (1st *)	5	..	..	..	..	..	..	12.8	15.2	16.5	17.9	19.3	56 16.34	— 33.46	5.11	18 55 47.99	16.21
	Dorpat 2447	6	29.0	30.0	31.2	32.4	33.4	..	1.4	3.9	5.0	6.5	7.7	59 48.05	— 16.60	5.11	18 59 36.56	16.29
	20 Aquilæ	7	1.4	3.6	4.9	14.3	15.4	16.6	17.7	18.9	28.6	29.8	31.8	5 16.64	+ 0.24	5.11	19 5 21.99	17.02
	Eunomia	8	5.4	7.5	9.0	19.3	20.2	21.6	22.9	24.0	34.5	35.7	37.9	9 21.64	0.31	5.11	19 9 27.06	..
	Lalande 36252	9	28.7	30.8	32.1	42.4	43.5	48.8	46.0	47.1	57.7	59.0	1.1	10 44.84	+ 0.31	5.11	19 10 50.26	18.73
	B. A. C. 6607	10	..	..	..	..	..	..	0.7	3.3	4.6	6.0	7.5	13 4.42	— 36.16	5.11	19 12 33.37	18.77
	δ Aquilæ	11	22.1	24.1	25.3	34.8	35.8	37.0	38.2	39.2	48.9	50.0	52.0	18 37.04	+ 0.19	5.11	19 18 42.34	15.94
	Lacaille 8120	12	10.6	13.0	14.4	25.6	26.8	28.3	29.6	30.8	42.5	43.7	46.0	21 28.30	0.39	5.11	19 21 33.80	20.14
	B. A. C. 6684	13	7.8	10.1	11.7	22.7	23.7	25.2	26.5	27.8	38.9	40.3	42.7	24 25.22	0.37	5.11	19 24 30.70	19.86
	β Aquilæ	14	21.4	23.5	24.8	34.3	35.3	36.5	37.7	38.7	48.4	49.6	51.7	48 36.54	0.18	5.11	19 48 41.83	— 15.62
	λ Ursæ Minoris	15	..	..	..	37.0	29.0	32.0	37.0	29.0	..	..	..	0 32.80	0.93	5.11	..	+ 194.89
	12 Ceti	16	48.8	50.8	51.8	1.5	2.5	3.7	4.9	5.8	15.5	16.5	18.8	23 3.69	0.23	5.11	0 23 9.03	— 15.43
	Santini 0.30	17	38.0	40.0	41.2	50.7	51.8	53.0	54.1	55.2	4.9	6.0	8.0	26 52.99	+ 0.19	5.11	0 26 58.29	15.56
	(* 127) W. + 2° 33′	18	..	..	..	..	..	..	6.3	8.6	10.0	11.2	12.5	29 9.72	— 33.50	5.11	0 28 41.33	15.55
	B. A. C. 161	19	..	..	..	..	..	..	58.5	1.0	2.2	3.5	4.9	31 2.02	— 33.49	5.11	0 30 33.64	15.55
	B. A. C. 167	20	49.8	51.8	53.0	2.5	3.5	4.7	5.9	7.0	16.5	17.6	19.8	32 4.74	+ 0.19	5.11	0 32 10.04	15.54
	60 Piscium	21	4.7	6.6	7.9	17.5	18.4	19.6	20.9	21.9	31.5	32.5	34.7	40 19.65	0.17	5.11	0 40 24.93	15.46
	Weisse 742	22	9.5	11.5	12.8	22.3	23.3	24.5	25.7	26.8	36.6	37.6	39.7	43 24.57	0.17	5.11	0 43 29.85	15.61
	Weisse 788	23	23.0	24.9	26.4	35.9	36.9	38.0	39.3	40.4	50.3	51.3	53.3	45 38.15	0.17	5.11	0 45 43.43	15.63
	ε Piscium	24	36.0	38.0	39.3	48.8	49.8	51.1	52.3	53.3	3.1	4.3	6.3	55 51.12	+ 0.17	5.11	0 55 57.40	15.60
	Polaris	†25	..	..	..	38.5	16.0	6.0	55.0	36.0	..	..	..	10 5.30	— 1.71	5.11	..	126.25
R.	α Orionis	26	8.6	10.3	11.6	12.5	15.0	..	..	..	..	..	..	47 11.60	+ 33.64	5.04	5 47 50.28	14.69
30	Sun I	†27	0.5	2.6	4.0	13.9	14.9	16.3	17.6	18.8	..	..	..	39 11.08	5.45	5.00	8 39 21.53	..
	Sun II	†28	13.9	15.8	17.4	27.4	28.4	29.7	31.0	32.0	..	..	..	41 24.45	+ 5.45	5.00	8 41 34.90	..
Y.	Polaris, S. P.	29	..	..	..	40.0	59.0	11.0	22.0	39.0	..	..	..	10 10.20	— 5.98	4.94	..	126.66
	α Virginis	30	43.8	45.9	47.3	56.8	57.9	59.1	0.4	1.4	11.2	12.3	14.5	17 59.15	+ 0.22	4.93	13 18 4.30	14.98
R.	* — 7° 31′	31	..	..	..	..	..	..	21.3	23.5	24.8	26.1	27.5	47 24.64	— 33.70	4.86	18 46 55.80	16.93
	ζ Aquilæ	32	52.8	54.8	56.1	5.7	6.9	8.0	9.3	10.3	20.2	21.5	23.7	59 8.12	+ 0.14	4.86	18 59 13.12	14.66
	20 Aquilæ	33	2.0	4.0	5.2	14.8	15.7	16.9	18.2	19.2	29.0	30.1	32.2	5 17.03	0.24	4.85	19 5 22.12	17.02
	ω Aquilæ	34	9.5	11.4	12.7	22.4	23.5	24.7	25.8	26.8	36.7	37.8	40.1	11 24.67	+ 0.15	4.85	19 11 29.67	14.98
	Polaris	†35	..	..	..	40.0	17.0	10.0	0.0	41.0	..	..	..	10 9.60	— 2.92	4.84	..	126.25
	θ Ceti	†36	56.3	58.3	59.3	9.1	10.1	11.3	12.6	13.6	23.5	24.7	26.6	17 11.40	+ 0.25	4.77	1 17 16.42	14.85
Aug. 1	B. A. C. 6083	37	17.6	20.2	21.5	33.4	34.6	36.0	37.6	38.7	50.8	52.1	54.8	52 36.12	0.40	4.63	17 52 41.15	20.96
Y.	Lacaille 7551	38	12.7	15.3	16.9	28.6	29.8	31.4	32.8	34.1	46.0	47.5	50.0	56 31.37	0.40	4.63	17 56 36.40	21.01
	B. A. C. 6160	39	2.0	4.3	5.7	16.6	17.7	19.1	20.4	..	..	..	..	3 12.26	7.21	4.63	18 3 24.10	19.69
	μ Sagittarii	40	..	23.3	24.5	34.6	35.8	37.0	38.3	39.4	49.8	51.0	..	5 37.08	+ 0.29	4.63	18 5 42.00	18.55
	B. A. C. 6182	41	..	..	..	27.0	28.2	29.6	31.0	32.3	43.5	45.0	47.3	7 35.49	— 5.44	4.64	18 7 34.69	20.10
	B. A. C. 6188	42	9.6	12.0	13.5	24.7	25.8	27.2	28.6	29.7	41.0	42.4	44.9	8 27.22	+ 0.36	4.64	18 8 32.22	20.10
	B. A. C. 6202	43	20.1	22.4	23.9	35.0	36.2	37.6	39.0	40.2	51.6	53.0	54.2	11 37.56	0.36	4.64	18 11 42.56	20.11
	δ Ursæ Minoris	44	..	..	..	33.0	49.0	9.0	29.5	47.0	..	..	..	16 9.50	0.81	4.64	..	74.96
	B. A. C. 6266	45	35.2	37.5	38.8	49.2	50.1	51.5	52.7	53.9	4.3	5.6	7.9	19 51.52	+ 0.30	4.64	18 19 56.46	18.85
	O. Arg. S. 18314	46	34.2	36.4	37.6	..	..	..	22.8	25.4	26.7	28.1	29.5	23 7.59	— 17.00	4.64	18 22 55.23	18.65
	B. A. C. 6310	47	..	..	..	27.2	28.3	29.7	31.2	32.5	43.8	45.1	47.6	25 35.68	— 5.43	4.64	18 25 34.89	20.06
	O. Arg. S. 18564	48	4.3	6.4	7.7	17.7	18.8	20.0	21.4	22.5	32.8	34.0	36.3	34 20.17	+ 0.29	4.64	18 34 25.10	18.50
	O. Arg. S. 18625	49	55.3	57.3	58.7	8.8	9.8	11.1	12.4	13.5	23.9	25.1	27.2	37 11.19	+ 0.29	4.64	18 37 16.12	18.55
	B. A. C. 6403	50	..	..	..	..	..	..	47.6	50.4	51.8	53.3	54.9	42 51.60	— 38.95	+ 4.64	18 42 17.29	— 20.08

25. Steady.
27–28. Very faint; through clouds.
35. Blurred and very unsteady; used clock beat.
36. Battery gave out.

		s.
July	30, 18h. to 20h. n. =	— 0.29.
	1h. to 2h.	0.32.
August	1, 17h. to 21h.	0.20.
	0h. to 2h.	— 0.32.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
July 30, 16.5	+ 4.89	— 0.014	+ 0.200
Aug. 1, 21.3	+ 4.67	+ 0.011	+ 0.200

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	h. m.	m. s.	s.	h. m. s.	s.
Aug. 1	Victoria	1	30.3	32.2	33.4	43.1	44.2	45.3	46.4	47.5	57.3	58.4	0.4	45 45.32	+ 0.23	+ 4.64	18 45 50.19	
Y.	Rumker 6881	2	34.8	36.8	38.2	48.5	49.5	50.8	52.0	53.1	3.5	4.8	7.0	50 50.82	0.14	4.64	18 50 55.60	— 13.77
	Lalande 35468	3	57.9	0.0	1.3	11.2	12.2	13.5	14.7	15.8	25.9	27.1	29.2	54 13.53	0.23	4.64	18 54 18.40	18.07
	ζ Aquilæ	4	53.1	54.9	56.3	6.1	7.1	8.3	9.5	10.6	20.5	21.7	23.9	59 8.36	+ 0.16	4.64	18 59 13.16	14.65
	B. A. C. 6549	5	. .	. .	. .	1.1	2.5	4.8	22.4	25.1	26.6	28.2	29.5	2 17.52	— 29.76	4.65	19 1 52.41	19.89
	* — 22° 11′	6	26.8	28.9	30.2	40.6	41.7	42.8	44.2	45.3	55.8	57.0	59.2	6 42.95	+ 0.30	4.65	19 6 47.90	18.72
	Weisse 224	7	3.6	5.6	6.8	16.3	17.3	18.5	19.8	20.8	30.5	31.6	33.7	10 18.59	0.20	4.65	19 10 23.44	16.05
	Dorpat 2492	8	21.5	23.4	24.6	34.2	35.1	36.3	37.4	38.5	48.2	49.3	51.3	11 36.35	0.20	4.65	19 11 41.20	16.06
	* — 23° 27′	9	5.3	7.4	8.7	19.3	20.2	21.5	22.8	24.0	34.5	35.7	37.9	16 21.57	0.30	4.65	19 6 26.52	18.86
	B. A. C. 6639	10	. .	. .	. .	. .	. .	. .	54.9	57.7	59.2	0.7	2.1	18 58.92	38.50	4.65	19 18 25.07	19.79
	Lacaille 8120	11	11.0	13.3	14.9	26.1	27.2	28.6	30.0	31.2	42.7	44.1	46.6	21 28.70	0.37	4.65	19 21 33.72	20.15
	B. A. C. 6684	12	8.2	10.4	11.9	22.9	24.1	25.4	26.8	28.1	39.2	40.6	43.0	24 25.51	0.35	4.65	19 24 30.51	19.87
	κ Aquilæ	13	18.4	20.4	21.7	31.3	32.3	33.5	34.7	35.7	45.4	46.6	48.8	29 33.53	0.23	4.65	19 29 38.41	16.97
	O. Arg. S. 19879	14	6.5	8.9	10.3	20.7	21.8	23.0	24.4	25.5	36.3	37.4	39.8	34 23.15	+ 0.31	4.65	19 34 28.11	18.97
	* — 23° 10′	15	. .	. .	. .	21.4	22.6	23.9	25.2	26.4	36.8	38.1	40.3	36 29.34	— 5.09	4.65	19 36 28.90	18.76
	* + 4° 40′	16	15.5	17.5	18.8	28.3	29.3	30.5	31.7	32.7	42.4	43.6	45.7	39 30.55	+ 0.18	4.65	19 39 35.38	15.73
	O. Arg. S. 20030	17	25.7	28.0	29.2	39.7	40.7	42.1	43.4	44.4	55.0	56.3	58.5	44 42.09	0.31	4.65	19 44 47.05	18.76
	* + 1° 3′	18	42.5	44.5	45.7	55.2	56.2	57.3	58.5	59.7	9.2	10.4	12.2	49 57.40	0.20	4.65	19 50 2.25	16.10
	* + 6° 32′	19	4.2	6.3	7.6	17.1	18.1	19.3	20.5	21.5	31.2	32.4	34.5	53 19.34	0.18	4.65	19 53 24.17	15.58
	Dorpat 2612, (1st *)	20	27.8	29.8	31.2	. .	. .	. .	. .	. .	55.0	56.0	58.2	54 43.00	0.14	4.65	19 54 47.79	15.59
	Dorpat 2612, (2d *)	21	. .	. .	. .	42.6	43.6	44.8	46.0	47.1	. .	. .	. .	54 44.82	0.23	4.66	19 54 49.71	15.59
	Pysche	22	2.2	4.2	5.4	15.6	16.5	17.7	18.9	20.2	30.3	31.5	32.5	59 17.73	+ 0.28	4.66	19 59 22.67	. .
	* — 18° 19′	23	. .	. .	. .	. .	. .	. .	27.7	30.4	31.7	33.0	34.4	0 31.44	— 35.17	4.66	20 0 0.93	18.07
	* — 14° 11′	24	37.1	39.1	40.4	50.3	51.3	52.6	53.7	54.8	4.8	5.9	8.1	3 52.55	+ 0.26	4.66	20 3 57.47	17.60
	Weisse 81	25	54.9	56.8	58.1	7.8	8.9	10.2	11.5	12.5	22.4	23.7	25.7	5 10.23	+ 0.26	4.66	20 5 15.15	17.60
	B. A. C. 7113	26	. .	. .	. .	14.1	15.5	17.6	34.4	37.0	38.4	39.7	41.2	30 29.74	— 28.33	4.66	20 30 6.07	18.60
	Weisse 905	27	. .	. .	. .	15.1	16.3	18.1	33.4	35.8	37.0	38.2	39.6	36 29.19	— 25.85	4.66	20 36 8.00	16.01
	Weisse 1057	28	18.7	20.7	22.0	31.4	32.4	33.6	34.8	35.8	45.5	46.8	48.8	41 33.69	+ 0.19	4.66	20 41 38.54	15.97
	μ Aquarii	29	3.0	5.1	6.3	15.8	16.8	18.1	19.3	20.4	30.1	31.3	33.3	45 18.14	0.24	4.66	20 45 23.04	17.01
	12 Ceti	30	49.4	51.4	52.5	2.0	3.0	4.2	5.4	6.4	16.1	17.3	19.3	23 4.27	0.23	4.70	0 23 9.20	15.51
	Santini 0.30	31	38.8	40.5	41.7	51.4	52.3	53.5	54.7	56.0	5.4	6.6	8.6	26 53.59	0.19	4.70	0 26 58.48	15.64
	(* 127) W. + 2° 33′	32	21.7	23.7	25.0	34.4	35.5	36.6	37.7	38.7	48.5	49.6	51.7	28 36.65	0.19	4.70	0 28 41.54	15.63
	Neptune	33	15.4	17.4	18.7	28.2	29.2	30.4	31.6	32.6	42.3	43.5	44.5	32 30.35	0.19	4.71	0 32 35.25	. .
	Weisse 620	34	13.4	15.4	16.6	26.3	27.2	28.4	29.6	30.7	40.4	41.5	43.5	36 28.45	0.17	4.71	0 36 33.33	15.68
	Lacaille 219	35	58.7	1.0	2.5	13.4	14.5	16.0	17.3	18.5	29.7	31.0	33.3	41 15.99	+ 0.42	4.71	0 41 21.12	14.68
	Lacaille 224	36	. .	. .	. .	. .	. .	. .	22.6	25.4	26.6	27.9	29.5	43 26.40	— 36.50	4.71	0 42 54.61	14.83
	Lacaille 241, (1st *)	37	50.1	51.6	52.9	54.1	56.6	. .	3.3	5.9	7.2	8.7	10.1	46 30.05	+ 0.11	4.71	0 46 34.93	14.72
	Lacaille 241, (2d *)	38	13.7	15.5	16.7	27.5	28.5	30.0	31.4	32.4	43.1	44.1	46.6	46 29.95	0.37	4.71	0 46 35.03	14.72
	O. Arg. S. 542	39	22.2	24.5	25.8	36.5	37.7	39.0	40.4	41.5	52.5	53.7	56.0	51 39.07	0.40	4.71	0 51 44.18	14.54
	ε Piscium	40	36.6	38.6	39.8	49.2	50.2	51.5	52.7	53.7	3.6	4.8	6.9	55 51.60	0.16	4.71	0 55 56.47	15.68
	O. Arg. S. 623	41	4.1	6.3	7.8	18.4	19.6	20.9	22.4	23.5	34.2	35.7	37.9	59 20.98	+ 0.39	4.71	0 59 26.08	14.40
	Polaris	42	. .	. .	. .	40.0	19.0	9.5	58.0	38.5	. .	. .	. .	10 9.00	— 2.92	4.72	. . . .	128.61
	θ Ceti	43	56.4	58.4	59.8	9.3	10.2	11.5	12.7	13.8	23.5	24.7	26.8	17 11.55	+ 0.25	4.72	1 17 16.52	14.91
R. 2	ε Piscium	†44	36.6	38.7	39.8	49.5	50.4	51.7	52.9	53.8	3.7	4.8	6.8	55 51.70	+ 0.16	4.68	. . . .	15.71
	Polaris	†45	. .	. .	. .	41.0	22.0	12.0	1.0	41.0	. .	. .	. .	10 11.40	— 4.54	4.68	. . . .	129.33
Y.	α Orionis	46	30.5	32.6	33.8	43.4	44.4	45.7	46.8	47.9	57.5	58.7	0.8	47 45.65	+ 0.18	4.61	5 47 50.44	14.79
	α^2 Geminorum	47	34.4	36.7	38.3	49.4	50.7	52.0	53.5	54.8	6.1	7.5	9.9	25 52.12	0.14	4.59	7 25 56.85	17.09
	α Canis Minoris	48	52.5	54.5	55.9	5.0	6.2	7.4	8.8	9.8	19.4	20.8	22.8	32 7.55	0.19	4.58	7 32 12.32	14.00
	β Geminorum	49	39.3	41.5	42.9	53.8	54.9	56.3	57.6	58.7	9.8	11.1	13.4	36 56.30	+ 0.14	+ 4.58	7 37 1.02	— 16.36

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 2, 5.8	+ 4.61	— 0.015	+ 0.200

44–45. Through clouds.

August 2, 0h. to 2h. n. = s. — 0.36.
5h. to 8h. — 0.15.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 3	* — 28° 34′ . .	1	9.3	11.6	13.0	23.9	25.1	26.3	27.7	28.8	39.7	41.1	43.5	42 26.36	+ 0.35	+ 4.24	17 42 30.95	— 19.54
Y.	* — 36° 20′ . .	2	48.5	51.0	52.5	4.4	5.5	7.1	8.4	9.5	21.7	23.1	25.8	45 7.05	+ 0.42	4.24	17 45 11.71	20.90
	B. A. C. 6051 . .	3	. .	. .	. .	53.0	54.3	55.8	57.4	58.5	10.6	12.0	14.5	46 2.01	— 5.74	4.24	17 46 0.51	20.92
	O. Arg. S. 17443 .	4	7.3	9.4	10.7	20.9	21.9	23.3	24.5	25.6	35.9	37.3	39.5	51 23.30	+ 0.31	4.24	17 51 27.85	18.48
	γ^2 Sagittarii . . .	5	47.0	49.3	50.6	1.7	2.8	4.3	5.6	6.8	18.0	19.2	21.7	57 4.27	0.37	4.24	17 57 8.88	19.88
	B. A. C. 6131 . .	6	53.6	56.0	57.3	8.5	9.5	11.0	12.2	13.6	24.9	26.1	28.6	0 11.03	0.38	4.24	18 0 15.65	20.03
	Dorpat 2288 . .	7	17.3	19.4	20.7	30.3	31.2	32.3	33.4	34.6	44.2	45.4	47.4	3 32.38	0.19	4.24	18 3 36.81	15.66
	* — 18° 59′ . .	8	. .	. .	. .	22.0	23.2	24.3	25.6	26.7	. .	. .	. .	6 24.36	0.34	4.24	18 6 28.94	18.25
	O. Arg. S. 17892 .	†9	43.5	45.6	47.0	57.0	58.0	59.2	0.5	1.6	12.0	13.1	15.3	6 59.35	+ 0.29	4.24	18 7 3.88	18.25
	O. Arg. S. 17916 .	10	. .	. .	. .	24.7	25.8	27.1	28.3	29.4	39.6	40.8	43.0	7 32.34	— 4.95	4.24	18 7 31.63	18.25
	O. Arg. S. 17928 .	11	. .	. .	. .	56.8	58.0	0.3	16.3	18.8	20.2	21.6	22.9	8 11.86	27.22	4.24	18 7 48.88	18.25
	* — 19° 1′ . . .	12	. .	. .	. .	37.2	38.4	40.5	56.7	59.2	0.4	1.8	3.2	8 52.18	27.22	4.24	18 8 29.20	18.26
	O. Arg. S. 17965 .	13	. .	. .	. .	10.1	11.4	13.5	29.7	32.2	33.4	34.8	36.2	9 25.16	— 27.22	4.24	18 9 2.18	18.26
	B. A. C. 6220 . .	†14	6.6	8.9	10.2	21.0	22.3	23.5	24.7	26.0	37.2	38.4	40.5	13 23.57	+ 0.44	4.23	18 13 28.24	— 19.64
	δ Ursæ Minoris . .	15	. .	. .	. .	. .	. .	10.0	30.5	48.0	.	. .	. .	16 29.50	— 19.07	4.23	. . . .	+ 75.53
	B. A. C. 6266 . .	†16	35.6	37.8	39.1	49.5	50.6	51.9	53.0	54.2	. .	. .	. .	19 46.46	+ 5.74	4.23	18 19 56.43	— 18.84
	B. A. C. 6292 . .	17	4.0	6.2	7.5	17.6	18.5	19.8	21.0	22.2	32.4	33.6	35.8	23 19.87	+ 0.29	4.23	18 23 24.39	18.29
	B. A. C. 6310 . .	18	. .	. .	. .	27.7	28.8	30.3	31.7	32.8	44.1	45.4	47.9	25 36.09	— 5.41	4.23	18 25 34.91	20.05
	* — 31° 0′ . . .	19	. .	. .	. .	52.3	53.7	56.0	13.6	16.5	17.9	19.3	20.8	26 8.76	29.95	4.23	18 25 43.01	20.05
	51 Cephei, S. P. . .	20	. .	. .	. .	. .	22.5	1.5	36.5	12.5	. .	. .	. .	35 48.25	11.73	4.23	6 35 40.75	123.04
	Victoria	21	. .	. .	. .	17.3	18.4	20.4	35.8	38.3	39.5	40.7	42.1	45 31.56	26.01	4.23	18 45 9.78	. .
	Weisse 1143 . .	22	. .	. .	. .	. .	. .	. .	11.7	14.1	15.3	16.5	17.8	46 15.08	— 33.71	4.23	18 45 45.60	16.93
	O. Arg. S. 18916 .	23	10.5	12.6	13.9	24.3	25.4	26.5	27.7	28.9	39.5	40.7	42.8	51 26.62	+ 0.31	4.23	18 51 31.16	18.71
	Weisse 1398 . .	24	26.6	28.6	29.7	39.5	40.5	41.6	42.8	43.9	53.7	54.9	56.9	55 41.70	+ 0.24	4.22	18 55 46.16	16.94
	Weisse 1412 . .	25	5.5	6.5	7.7	8.9	10.0	. .	38.4	40.7	42.0	43.1	44.5	56 24.73	— 16.72	4.22	18 56 12.23	16.94
	ζ Aquilæ	26	6.4	7.4	8.7	9.9	10.9	. .	39.9	42.3	43.5	45.0	46.1	59 26.01	— 17.15	4.22	18 59 13.08	14.64
4	α Canis Majoris . .	27	51.0	53.2	54.4	4.3	5.4	6.7	7.8	8.9	19.0	20.3	22.4	39 6.67	+ 0.24	3.45	6 39 10.36	11.71
	α Canis Minoris . .	28	53.6	55.7	57.0	6.5	7.4	8.6	9.8	11.0	20.6	21.9	23.8	32 8.72	0.19	3.44	7 32 12.35	14.03
	β Geminorum . .	29	40.4	42.8	44.1	55.0	56.0	57.4	58.8	59.9	10.9	12.3	14.5	36 57.46	0.17	3.44	7 37 1.07	— 16.39
5	Sun I	30	15.3	17.2	18.6	28.6	29.6	30.8	32.0	33.2	43.2	44.5	46.8	2 30.89	0.18	3.42	9 2 34.49	. .
	Sun II	31	27.7	29.7	31.0	40.9	42.0	43.3	44.5	45.7	55.7	57.0	59.3	4 43.35	0.18	3.42	9 4 46.95	. .
	Venus I	32	11.6	13.7	15.0	25.0	26.0	27.3	28.5	29.6	39.7	41.0	43.0	25 27.31	0.18	3.41	9 25 30.90	+ 0.35
	Mercury I . . .	33	. .	. .	. .	17.8	18.9	20.1	21.3	22.4	. .	. .	. .	17 20.10	+ 0.23	3.40	10 17 23.73	+ 0.18
	Polaris, S. P. . .	34	. .	. .	. .	46.5	6.0	17.0	28.5	47.5	. .	. .	. .	10 17.10	— 5.98	3.35	. . . .	— 131.08
8	α Virginis	35	45.4	47.5	48.8	58.5	59.4	0.6	1.8	2.8	12.7	13.9	15.9	18 0.66	+ 0.22	3.35	13 18 4.23	14.91
9	α Virginis	36	. .	. .	. .	13.8	15.0	17.3	32.6	35.1	36.4	37.7	39.0	18 28.36	— 26.29	. .	. . . .	14.87
R.	ε Pegasi	37	17.9	19.9	21.2	. .	. .	. .	. .	. .	. .	. .	. .	37 19.67	+ 13.13	1.55	21 37 34.35	15.73
	12 Ceti	38	53.0	55.1	56.4	5.8	6.9	8.1	9.3	10.3	20.0	21.2	23.2	23 8.12	— 0.19	1.48	0 23 9.41	15.70
	Neptune . . .	39	56.2	58.0	59.2	8.9	9.9	11.0	12.2	13.3	22.9	24.1	26.1	32 11.07	2.29	1.47	0 32 12.32	. .
	β Ceti	40	32.0	34.0	35.4	45.5	46.5	47.7	49.0	50.0	0.2	1.4	2.7	36 47.67	— 0.12	1.47	0 36 49.02	15.47
	Polaris	41	17.5	18.0	4.0	51.0	28.0	. .	. .	. .	. .	. .	. .	48 11.70	+22 3.82	1.46	. . . .	124.72
Y.	α Canis Majoris . .	42	31.8	33.2	34.5	35.8	38.2	. .	6.9	8.0	9.3	10.5	11.6	38 51.98	+ 17.15	1.29	6 39 10.42	11.81
	α Canis Minoris . .	43	56.4	58.4	59.7	9.2	10.2	11.4	12.6	13.7	23.3	24.4	26.5	31 11.44	— 0.23	1.27	7 31 12.48	14.12
	β Geminorum . . .	†44	43.2	45.6	46.9	57.7	58.8	0.1	1.6	2.7	13.7	15.0	17.5	37 0.25	0.35	1.27	7 37 1.17	— 16.49
10	Sun I	45	22.5	24.4	25.7	35.5	36.6	37.9	39.2	40.2	50.1	51.4	53.6	21 37.92	0.27	1.22	9 21 38.87	. .
	Sun II	46	34.0	36.0	37.4	47.0	48.3	49.5	50.7	51.9	1.8	2.9	5.1	23 49.51	0.27	1.22	9 23 50.46	. .
	Venus I	47	14.3	15.6	16.9	18.0	20.5	. .	22.6	25.2	26.6	27.8	29.2	49 51.67	— 0.51	1.21	9 49 52.37	+ 0.35
	Mercury I . . .	48	23.0	25.0	26.2	35.9	37.0	38.1	39.3	40.4	. .	. .	. .	46 33.11	+ 4.82	1.18	10 46 39.11	+ 0.19
	Polaris, S. P. . .	49	. .	. .	. .	30.0	50.0	1.0	13.0	32.5	. .	. .	. .	10 1.30	+ 14.94	+ 1.12	. . . .	— 135.15

9. Several stars in the field; declinations slightly uncertain.
14. Clouds.
16. Clouds.
44. Rather faint.

		s.
August	3, 17h. to 19h. n. =	— 0.24.
	4–5	0.10.
	9, 21h. to 1h.	0.30.
	9–10, 6h. to 16h.	0.21.
	10, 16h. to 19h.	— 0.29.

r.

August 5, 21h. 30m. Image east 0.22. Clamp east.
Image west 0.45. Clamp west.
22h. Reduced the level and collimation errors.

r.

August 10, 18h. 45m. Image east 0.12. Clamp east.
Image west 0.52. Clamp west.
Readjusted the collimation.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Aug. 3, 18.5	+ 4.23	— 0.015	+ 0.200
4, 8.8	3.42	0.015	. .
8, 13.3	2.43	. .	. .
9, 23.5	1.50	0.026	— 0.207
10, 13.2	+ 1.12	— 0.026	— 0.207

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 10	α	Virginis	1	48.0	50.0	51.2	1.0	1.9	3.1	4.4	5.5	15.2	16.4	18.4	18 3.19	— 0.17	+ 1.12	13 18 4.14	— 14.85
Y.	α	Libræ	2	. .	. .	. .	35.7	37.0	39.0	54.9	57.4	58.6	59.9	1.3	43 50.48	27.15	1.08	14 43 24.41	16.08
		Moon I	3	32.1	34.3	35.7	45.9	46.9	48.2	49.5	50.6	1.0	2.3	4.5	13 48.27	0.15	1.07	15 13 49.19	. .
	α	Coronæ Borealis	4	40.5	42.7	44.1	54.9	56.0	57.3	58.6	59.9	10.7	12.0	14.3	28 57.36	0.35	1.06	15 28 58.07	12.39
		Weisse 539	5	55.0	57.1	58.4	8.2	9.2	10.4	11.6	12.7	22.5	23.5	25.7	29 10.39	0.17	1.03	16 29 11.25	16.39
	ξ	Herculis	6	53.9	56.3	57.8	8.9	10.0	11.4	12.9	14.1	25.4	27.0	29.4	36 11.55	0.43	1.03	16 36 12.15	11.58
		B. A. C. 5633	7	14.4	16.5	17.9	28.4	29.5	30.8	32.0	33.3	43.8	45.0	47.4	41 30.82	0.10	1.03	16 41 31.75	18.41
		B. A. C. 5678	8	10.8	13.3	14.6	25.8	26.9	28.4	29.6	31.1	42.3	43.6	46.0	46 28.40	0.07	1.03	16 46 29.36	19.45
		* — 31° 14′	9	15.3	17.7	19.1	30.3	31.4	32.7	34.3	35.4	46.8	48.3	50.6	47 32.90	0.07	1.03	16 47 33.86	19.48
		O. Arg. S. 16256	10	6.9	9.0	10.3	20.4	21.5	22.8	24.0	25.1	35.4	36.5	38.7	55 22.78	0.12	1.02	16 55 23.68	— 17.85
	ε	Ursæ Minoris	11	11.2	25.6	34.8	45.6	52.8	1.5	10.4	18.0	29.4	38.7	54.0	0 2.00	3.67	1.02	16 59 59.35	+ 27.44
		O. Arg. N. 16862	12	35.3	38.5	40.1	55.5	56.9	59.0	0.8	2.4	17.8	19.7	22.9	4 58.99	0.69	1.02	17 4 59.32	— 8.06
		* — 31° 33′	13	30.0	32.3	33.7	45.0	46.1	47.5	48.8	50.0	1.4	2.8	5.3	14 47.54	0.07	1.01	17 14 48.48	19.77
		B. A. C. 5946	14	24.3	26.8	28.0	38.7	39.8	41.2	42.7	43.7	54.8	55.8	58.2	29 41.27	0.08	1.01	17 29 42.20	19.30
		B. A. C. 5977	15	56.8	59.3	0.7	12.2	13.3	14.7	16.0	17.2	28.9	30.3	32.5	34 14.72	0.06	1.01	17 34 15.67	20.15
		B. A. C. 6023	16	25.4	27.5	28.8	39.3	40.4	41.7	42.9	44.0	54.8	55.9	58.2	41 41.72	0.10	1.00	17 41 42.62	18.80
		B. A. C. 6043	†17	. .	. .	. .	51.7	53.0	54.4	55.7	56.9	8.7	10.1	12.7	45 0.40	6.08	1.00	17 44 55.32	— 20.52
		O. Arg. N. 17680	†18	47.9	55.6	0.9	43.5	47.3	51.3	56.3	0.6	43.0	48.1	57.1	51 51.96	2.10	1.00	17 51 50.86	+ 8.51
	γ^2	Sagittarii	19	50.5	52.7	54.2	5.3	6.4	7.7	9.0	10.4	21.4	22.9	25.2	57 7.79	0.07	1.00	17 57 8.72	— 19.81
		O. Arg. S. 17728	20	22.2	24.3	25.6	35.7	36.7	38.0	39.0	40.2	50.6	51.7	54.0	1 38.00	0.12	0.99	18 1 38.87	— 18.23
	δ	Ursæ Minoris	21	. .	. .	. .	43.0	58.5	19.2	40.0	56.3	. .	. .	. .	16 19.40	7.60	0.99	. . . .	+ 77.50
		O. Arg. S. 18314	22	38.2	40.3	41.6	52.0	53.0	54.1	55.4	56.5	6.9	8.2	10.4	22 54.24	0.11	0.99	18 22 55.12	— 18.59
	1	Aquilæ	†23	36.3	38.4	39.5	49.2	50.1	51.2	52.6	53.6	3.2	4.6	6.6	27 51.39	0.17	0.98	18 27 52.20	16.92
R.	α^2	Geminorum	†24	. .	. .	. .	53.5	54.5	56.1	57.4	58.6	10.3	11.6	13.8	26 1.98	— 5.90	0.92	. . . .	— 17.26
11		Sun I	†25	9.9	12.1	13.0	23.0	24.1	25.4	. .	. .	. .	. .	. .	25 17.92	+ 7.43	0.88	9 25 26.23	+ 65.67
		Venus I	26	3.4	5.0	6.4	7.5	10.0	. .	12.2	14.4	15.8	17.1	18.5	54 41.03	— 0.29	0.87	9 54 41.61	. .
		Venus II	27	26.0	28.0	29.3	39.3	40.4	41.5	42.6	43.6	53.7	54.9	57.0	54 41.48	0.05	0.87	9 54 42.30	. .
		Mercury I	†28	51.2	53.3	54.5	4.3	5.3	6.5	7.7	8.8	18.6	19.6	21.7	52 6.50	0.06	0.84	10 52 7.28	+ 0.20
Y.		Polaris, S. P.	29	. .	. .	. .	48.0	7.0	19.5	32.0	48.0	. .	. .	. .	10 18.90	1.81	0.79	. . . .	— 136.02
R.		Moon I	†30	. .	. .	. .	56.1	57.3	58.6	59.9	1.0	11.6	12.9	15.0	10 4.05	— 5.51	0.72	16 9 59.26	. .
	α	Scorpii	†31	27.5	29.3	30.3	31.6	34.2	. .	5.0	6.2	7.5	8.8	10.0	20 49.04	+ 18.40	0.71	. . . .	18.42
Y.	α	Canis Majoris	32	54.5	56.6	57.8	7.8	8.7	9.9	11.3	12.3	22.4	23.6	25.6	39 10.05	— 0.08	0.42	6 39 10.39	11.85
	α	Canis Minoris	†33	57.2	59.1	0.4	10.0	11.0	12.1	13.3	14.4	23.9	25.1	27.3	32 12.16	0.06	0.41	7 32 12.46	14.15
	β	Geminorum	†34	43.8	46.1	47.7	58.3	59.5	0.8	2.3	3.4	14.3	15.7	18.0	37 0.90	0.04	0.40	7 37 1.26	— 16.53
12		Sun I	35	57.0	58.9	0.1	10.0	11.0	12.2	13.4	14.6	24.5	25.7	27.9	29 12.30	0.05	0.34	9 29 12.59	. .
		Sun II	36	8.0	10.0	11.5	21.1	22.1	23.4	24.6	25.7	35.7	36.9	39.0	31 23.45	0.05	0.34	9 31 23.74	. .
		Venus I	37	51.9	53.3	54.6	55.9	58.2	. .	0.5	2.8	4.1	5.4	6.8	59 29.35	0.29	0.34	9 59 29.40	. .
		Venus II	38	14.4	16.4	17.6	27.5	28.5	29.6	30.9	32.0	42.0	43.1	45.2	59 29.75	0.05	0.34	9 59 30.04	. .
		Mercury I	39	12.7	14.6	15.8	25.5	26.4	27.6	28.8	30.0	39.7	41.0	43.0	57 27.74	0.06	0.28	10 57 27.96	+ 0.20
	β	Leonis	40	53.0	55.1	56.4	6.3	7.3	8.6	9.7	10.9	21.0	22.1	24.3	42 8.61	0.05	0.28	11 42 8.84	— 13.79
		Polaris, S. P.	41	. .	. .	. .	49.0	10.0	22.5	35.0	49.0	. .	. .	. .	10 21.10	1.81	0.27	. . . .	136.86
	α	Virginis	42	48.7	50.9	52.0	1.5	2.6	3.9	5.1	6.1	15.9	17.1	19.3	18 3.92	0.08	0.27	13 18 4.11	14.82
		Weisse 981	43	27.0	28.9	30.0	39.6	40.5	41.8	43.0	44.0	53.8	54.9	56.9	52 41.85	0.06	0.26	16 52 42.05	15.99
		B. A. C. 5768	44	53.0	55.4	56.8	7.8	8.9	10.3	11.7	12.8	24.1	25.4	27.7	0 10.35	0.01	0.26	17 0 10.60	19.41
		B. A. C. 5796	45	41.1	43.5	44.7	55.7	56.7	58.1	59.4	0.6	11.5	12.8	15.0	4 58.10	0.02	0.26	17 4 58.34	19.05
		O. Arg. S. 16511	46	35.0	37.2	38.5	48.8	49.8	51.0	52.3	53.5	3.8	4.9	7.2	6 51.09	0.03	0.26	17 6 51.32	18.10
		Moon I	47	54.8	56.9	58.2	8.7	9.8	11.2	12.5	13.6	24.1	25.6	27.7	9 11.19	0.03	0.26	17 9 11.42	. .
	θ	Ophiuchi	48	26.8	29.0	30.5	40.8	41.9	43.3	44.6	45.8	56.5	57.6	59.9	13 43.34	0.02	0.26	17 13 43.58	18.70
		B. A. C. 5868	49	35.0	37.0	38.5	49.0	50.0	51.3	52.5	53.7	4.3	5.6	7.9	16 51.35	0.02	0.26	17 16 51.59	18.63
	b	Ophiuchi	50	51.4	53.6	55.0	5.3	6.4	7.9	9.0	10.2	20.7	22.0	24.3	18 7.80	— 0.02	+ 0.26	17 18 8.04	— 18.63

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 11, 11.9	+ 0.82	— 0.023	— 0.063
7.3	0.41	— 0.013	. .
12, 19.2	+ 0.25	+ 0.004	— 0.063

17. Many stars in the field.
18. Faint.
23. Blurred.
24. Very faint.
25. Pen failed.
28. Very faint.
30–31. Through clouds.
33. Unsteady.
34. More steady.

	s.
August 11 . . . . n. =	+ 0.06.
11–12, 7h. to 14h.	+ 0.06.
12, 16h. to 22h.	— 0.10.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 12	c^2 Ophiuchi . . .	1	54.6	56.7	58.1	8.5	9.6	11.0	12.3	13.4	23.8	25.2	27.5	23 10.97	— 0.02	+ 0.26	17 23 11.21	— 18.63
Y.	B. A. C. 5932 . .	2	56.3	58.7	0.4	12.5	13.7	15.3	16.8	18.1	30.5	32.0	34.6	27 15.35	0.00	0.26	17 27 15.61	21.10
	B. A. C. 5960 . .	3	55.9	58.2	59.6	10.9	12.1	13.4	14.8	16.1	27.4	28.7	31.2	31 13.48	0.01	0.26	17 31 13.73	19.95
	* — 32° 5′ . . .	4	. .	. .	. .	37.3	38.7	41.0	59.0	1.9	3.2	4.8	6.4	31 54.03	30.72	0.26	17 31 23.57	19.96
	* — 32° 7′ . . .	5	.	. .	. .	. .	. .	. .	31.6	34.4	35.9	37.4	39.0	32 35.66	39.72	0.26	17 31 56.18	19.96
	Lacaille 7420 . .	6	49.8	52.4	53.8	. .	. .	. .	. .	. .	24.4	25.9	28.5	37 9.13	0.05	0.26	17 37 9.34	21.31
	Lacaille 7448 . .	7	8.2	10.5	12.2	23.8	25.0	26.5	27.9	29.3	41.2	42.5	45.0	40 26.55	0.01	0.26	17 40 26.80	20.58
	* — 35° 17′ . .	8	45.5	47.9	49.3	1.0	2.3	3.8	5.0	6.5	18.3	19.7	22.2	42 3.77	0.01	0.26	17 42 4.02	20.58
	* — 34° 58′ . .	9	. .	. .	. .	9.4	10.7	13.2	31.7	34.6	36.1	37.7	39.3	44 26.59	31.76	0.26	17 43 55.09	20.54
	B. A. C. 6038 . .	10	. .	. .	. .	. .	. .	. .	59.4	2.2	3.8	5.4	7.0	45 3.56	41.07	0.26	17 44 22.75	20.54
	B. A. C. 6057 . .	11	8.8	10.2	12.7	24.0	25.2	26.6	27.9	29.1	40.6	42.2	44.5	47 26.53	0.01	0.26	17 47 26.78	20.11
	Dorpat 2244 . .	†12	. .	. .	. .	. .	. .	. .	39.9	42.2	43.5	45.0	46.0	50 43.32	33.71	0.26	17 50 9.87	15.80
	γ^2 Sagittarii . .	13	51.1	53.4	54.9	5.8	7.1	8.5	9.8	11.2	22.3	23.6	25.9	57 8.51	0.01	0.25	17 57 8.75	19.79
	O. Arg. S. 17728 .	14	22.7	24.7	26.1	36.2	37.3	38.5	39.8	40.8	51.2	52.4	54.4	1 38.55	0.03	0.25	18 1 38.77	18.21
	B. A. C. 6160 . .	15	21.3	22.4	23.6	25.0	26.1	. .	58.3	0.9	2.4	3.9	5.4	3 42.93	19.22	0.25	18 3 23.96	19.60
	O. Arg. S. 17892 .	16	47.8	50.0	51.3	1.3	2.3	3.6	4.9	5.9	16.2	17.3	19.7	7 3.66	0.03	0.25	18 7 3.88	18.17
	O. Arg. S. 17916 .	17	. .	. .	. .	29.0	30.0	31.2	32.5	33.6	43.9	45.0	47.2	7 36.55	5.27	0.25	18 7 31.53	18.18
	O. Arg S. 17928 .	18	. .	. .	. .	1.0	2.4	4.6	20.5	23.2	24.4	25.8	27.2	8 16.14	27.54	0.25	18 7 48.85	18.18
	O. Arg. S. 17965 .	19	46.0	48.1	49.4	59.6	0.6	1.8	3.1	4.2	14.5	15.7	17.7	9 1.88	0.03	0.25	18 9 2.10	— 18.18
	δ Ursæ Minoris . .	20	. .	. .	. .	36.5	53.5	13.5	34.0	50.5	. .	. .	. .	16 13.60	1.95	0.25	. . . .	+ 78.19
	1 Aquilæ	21	36.8	38.8	40.2	. .	. .	. .	. .	. .	3.9	5.0	7.2	27 51.98	— 0.09	0.25	18 27 52.14	— 16.90
	51 Cephei, S. P. . .	22	. .	. .	. .	28.0	9.0	44.0	18.0	56.0	. .	. .	. .	35 43.00	+ 2.38	0.25	18 35 45.63	126.16
	B. A. C. 6403 . .	23	59.5	1.8	3.3	14.4	15.6	17.0	18.4	19.6	30.9	32.2	34.6	42 17.03	— 0.01	0.25	18 42 17.27	20.01
	B. A. C. 6414 . .	24	. .	. .	. .	15.7	17.1	19.4	37.2	40.0	41.4	42.9	44.4	44 32.26	30.33	0.25	18 44 2.18	19.98
	B. A. C. 6485 . .	25	13.5	15.6	17.0	27.2	28.4	29.7	31.0	32.1	42.6	43.9	46.1	53 29.74	0.03	0.25	18 53 29.96	18.78
	Dorpat 2447 . . .	26	21.2	23.3	24.6	33.9	35.1	36.3	37.5	38.6	48.3	49.4	51.3	59 36.32	0.06	0.25	18 59 36.51	16.24
	B. A. C. 6568 . .	27	45.5	47.7	49.1	0.1	1.2	2.6	4.0	5.2	16.4	17.8	20.0	6 2.69	0.01	0.25	19 6 2.93	19.81
	O. Arg. S. 19341 .	28	2.8	5.3	6.5	17.5	18.6	20.0	21.3	22.5	33.5	34.8	37.2	8 20.00	0.02	0.25	19 8 20.23	19.63
	B. A. C. 6604 . .	29	13.1	15.3	16.6	27.2	28.2	29.5	30.8	32.0	42.5	43.8	46.0	12 29.55	0.03	0.25	19 12 29.77	18.98
	δ Aquilæ	30	27.1	29.0	30.2	39.9	40.8	42.0	43.2	44.4	54.0	55.0	57.2	18 42.07	0.07	0.25	19 18 42.25	15.91
	O. Arg. S. 19660 .	31	21.4	23.6	25.0	35.9	37.0	38.3	39.7	40.8	51.9	53.3	55.5	23 38.40	0.02	0.25	19 23 38.63	19.52
	O. Arg. S. 19708 .	32	. .	. .	. .	18.1	19.4	21.6	38.7	41.5	42.8	44.3	45.7	26 34.01	29.33	0.25	19 26 4.93	19.36
	Weisse 722 . . .	33	11.1	13.2	14.4	24.0	25.0	26.3	27.5	28.5	38.5	39.6	41.6	29 26.34	0.04	0.25	19 29 26.55	17.26
	Dorpat 2562, (1st *)	34	37.1	38.4	39.6	40.8	43.2	. .	44.0	46.3	47.5	48.9	50.2	36 13.60	0.32	0.25	19 36 13.53	15.37
	Dorpat 2562, (2d *)	35	59.9	1.8	3.2	12.7	13.7	15.9	16.2	17.2	26.9	28.2	30.2	36 15.08	0.08	0.25	19 36 15.25	— 15.37
	λ Ursæ Minoris . .	36	. .	. .	. .	. .	. .	. .	8.5	16.5	17.5	25.5	35.5	30 8.70	29 37.82	0.25	. . . .	+ 201.65
	α^2 Capricorni . . .	37	18.9	21.0	22.3	32.1	33.2	34.3	35.4	36.5	46.5	47.7	49.8	10 34.34	0.04	0.25	20 10 34.55	— 17.51
	B. A. C. 59 . . .	38	13.4	16.0	17.5	29.6	30.7	32.1	33.7	35.0	47.0	48.7	51.2	11 32.25	0.00	0.25	0 11 32.48	15.57
	Lacaille 52 . . .	39	27.4	28.7	30.1	31.7	33.0	. .	7.8	10.7	12.4	13.9	15.7	14 51.14	20.91	0.23	0 14 30.46	15.50
	Lacaille 62 . . .	40	. .	. .	. .	. .	. .	. .	47.3	50.5	52.1	53.8	55.4	16 51.82	42.81	0.23	0 16 9.24	15.44
	Lacaille 72 . . .	41	. .	. .	. .	18.5	19.9	21.4	23.0	24.3	36.4	38.1	40.5	17 27.76	6.30	0.23	0 17 21.69	15.40
	Lacaille 92 . . .	42	28.8	31.0	32.2	43.6	44.9	46.4	47.8	49.0	0.5	1.8	4.3	20 46.39	0.01	0.23	0 20 46.61	15.38
	12 Ceti	43	54.2	56.1	57.6	6.9	7.8	9.0	10.2	11.3	20.9	22.1	24.2	23 9.12	0.05	0.23	0 23 9.30	15.77
	B. A. C. 136, (1st *)	44	48.0	50.6	52.0	3.8	5.0	6.5	7.9	9.3	21.1	22.5	25.0	27 6.52	0.01	0.23	0 27 6.74	15.18
	B. A. C. 136, (2d *)	45	22.3	24.0	25.6	27.0	30.0	. .	43.8	46.8	48.3	49.9	51.7	27 6.94	0.30	0.23	0 27 6.87	15.18
	Neptune . . .	46	46.6	48.7	49.8	59.5	0.5	1.6	2.8	3.8	13.5	14.6	16.7	32 1.65	0.07	0.23	0 32 1.81	. .
	β Ceti	47	33.1	35.1	36.3	46.5	47.6	48.8	50.0	51.0	1.3	2.5	4.8	36 48.82	0.03	0.23	0 36 49.02	15.44
	Lacaille 216 . .	48	45.4	47.8	49.4	1.4	2.6	4.3	5.8	7.0	19.3	20.7	23.2	41 4.26	0.00	0.23	0 41 4.49	14.79
	O. Arg. S. 452 . .	49	5.4	7.8	9.0	19.5	20.6	21.7	23.0	24.2	35.0	36.3	38.6	43 21.92	0.02	0.23	0 43 22.13	15.09
	B. A. C. 249 . .	50	16.3	18.7	20.1	31.6	32.9	34.2	35.5	36.9	48.5	49.6	52.3	47 34.24	— 0.01	+ 0.23	0 47 34.46	— 14.75

12. Very close double.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
Aug. 12,	9.0	— 0.04	— 0.020	— 0.063

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 12	Lacaille 257	1	57.2	59.5	0.9	11.5	12.6	13.9	15.2	16.5	27.1	28.4	30.6	50 13.95	— 0.02	+ 0.23	0 50 14.16	— 14.93
Y.	ε Piscium	2	41.5	43.6	44.9	54.4	55.4	56.6	57.8	58.8	8.5	9.7	11.8	55 56.64	0.08	0.23	0 55 56.79	15.96
	Polaris	3	. .	. .	. .	57.0	37.0	25.5	14.5	53.5	. .	. .	. .	10 25.50	4.66	0.23	. . . .	137.27
	α Canis Majoris	4	54.9	57.0	58.4	8.2	9.2	10.5	11.7	12.9	23.0	24.0	26.2	39 10.55	0.08	+ 0.01	6 39 10.48	11.88
R.	α^2 Geminorum	5	39.4	41.7	43.3	54.4	55.6	57.0	58.5	59.7	11.0	12.4	15.0	25 57.09	0.04	— 0.01	7 25 57.04	17.30
	α Canis Minoris	6	57.6	59.5	0.8	10.3	11.4	12.5	13.7	14.8	24.5	25.6	27.7	32 12.58	0.06	0.01	7 32 12.51	14.17
	β Geminorum	7	44.4	46.5	48.0	58.7	59.9	1.3	2.6	3.8	14.7	16.1	18.5	37 1.32	0.04	0.01	7 37 1.27	— 16.55
13	Sun I	8	43.3	45.3	46.5	56.4	57.5	58.6	59.8	0.9	10.9	12.1	13.2	32 58.59	0.05	0.05	9 32 58.49	. .
	Sun II	9	54.2	56.4	57.6	7.5	8.6	9.8	11.0	12.2	22.0	23.2	25.4	35 9.81	0.05	0.05	9 35 9.71	. .
	Venus I	10	0.9	3.0	4.4	14.0	15.2	16.4	17.6	18.7	28.5	29.8	31.7	4 16.38	0.05	0.06	10 4 16.27	. .
	Venus II	11	40.1	41.5	42.7	44.0	46.3	. .	48.3	50.6	52.1	53.4	54.7	4 17.37	0.29	0.06	10 4 17.02	. .
	Mercury I	12	26.6	28.7	30.0	39.3	40.5	41.7	42.9	44.0	53.5	54.7	56.7	2 41.69	0.06	0.08	11 2 41.55	+ 0.20
	β Leonis	13	53.5	55.6	56.9	6.7	7.6	8.9	9.1	11.2	21.3	22.5	24.5	42 8.89	0.05	0.09	11 42 8.75	— 13.78
	Polaris, S. P.	†14	. .	. .	. .	50.0	12.0	22.0	34.0	52.0	. .	. .	. .	10 22.00	1.81	0.12	. . . .	137.66
	α Virginis	15	49.1	51.2	52.4	2.0	3.0	4.3	5.5	6.6	16.3	17.6	19.7	18 4.34	0.08	0.13	13 18 4.13	14.81
Y. 15	ζ Aquilæ	16	59.2	1.3	2.6	12.3	13.4	14.5	15.6	16.7	26.8	28.0	30.0	59 14.58	0.09	1.45	18 59 13.04	14.56
	B. A. C. 6549	17	36.5	38.7	40.1	51.2	52.4	53.6	55.0	56.2	7.4	8.8	11.2	1 53.74	0.01	1.45	19 1 52.28	19.83
	Moon I	18	30.6	32.7	34.1	44.2	45.2	46.6	47.8	49.0	59.2	0.2	2.5	16 46.55	0.04	1.48	20 16 45.03	. .
	ρ Capricorni	†19	. .	. .	. .	. .	. .	. .	. .	. .	24.1	25.4	27.6	21 25.70	14.03	1.48	20 21 10.19	17.97
	ε Delphini	20	11.7	13.2	14.4	15.6	18.0	. .	19.0	21.6	22.8	24.2	25.5	26 48.60	0.32	1.48	20 26 46.80	15.32
16	α^2 Geminorum	21	41.6	44.1	45.6	56.7	58.0	59.3	0.6	2.0	13.4	14.9	17.3	25 59.41	0.04	2.19	7 25 57.18	17.40
	α Canis Minoris	†22	. .	1.6	3.0	12.5	13.6	14.8	16.0	17.1	26.6	27.7	30.0	32 16.29	1.56	2.19	7 32 12.54	14.25
	β Geminorum	23	46.5	48.8	50.2	1.1	2.3	3.6	4.9	6.1	16.9	18.2	20.7	37 3.57	0.04	2.20	7 37 1.33	16.64
17	Sun I	24	43.7	45.6	47.0	56.8	57.9	59.1	0.3	1.3	11.2	12.5	14.4	47 59.07	0.05	2.26	9 47 56.76	. .
	Sun II	25	54.0	56.2	57.5	7.2	8.3	9.5	10.7	11.9	21.7	22.9	25.0	50 9.54	0.05	2.26	9 50 7.23	. .
	α Aquarii	26	39.5	41.4	42.6	52.3	53.3	54.5	55.7	56.8	6.3	7.5	9.6	58 54.50	0.06	2.58	21 58 51.86	16.35
	θ Aquarii	27	30.8	32.9	34.1	43.6	44.7	45.9	47.1	48.2	57.9	59.2	1.2	9 45.96	0.05	2.59	22 9 43.32	16.73
	π Aquarii	28	11.5	13.5	14.8	24.2	25.3	26.4	27.5	28.6	38.4	39.5	41.6	18 26.48	0.06	2.59	22 18 23.83	16.26
	Moon II	†29	52.6	54.5	55.8	5.6	6.6	7.8	9.1	10.2	20.2	21.4	23.5	22 7.94	0.05	2.60	22 22 5.29	. .
	ζ Pegasi	30	32.3	34.3	35.5	45.4	46.4	47.6	48.7	49.6	59.5	0.7	2.8	34 47.53	0.08	2.60	22 34 44.85	15.95
R. 23	Moon II	†31	33.4	35.6	37.0	47.2	48.3	49.7	50.9	52.0	2.5	3.7	6.0	10 49.66	0.08	11.30	4 10 38.28	. .
	α Tauri	†32	6.0	8.0	9.3	19.2	20.2	21.5	22.7	23.8	33.8	35.1	37.3	28 21.54	0.07	11.32	. . . .	16.71
Y. 24	Sun I	33	46.7	48.8	50.0	59.8	0.9	2.0	3.2	4.3	14.0	15.4	17.3	14 2.04	0.07	11.81	10 13 50.16	. .
	Sun II	34	56.2	58.2	59.5	9.1	10.0	11.3	12.5	13.6	23.5	24.7	27.0	16 11.42	— 0.07	11.81	10 15 59.54	. .
	Polaris, S. P.	35	. .	. .	. .	6.5	27.0	38.0	50.0	6.0	. .	. .	. .	10 37.50	+ 1.83	11.98	. . . .	145.17
	α Virginis	36	0.8	2.8	4.1	13.8	14.9	16.0	17.2	18.3	28.0	29.3	31.3	18 16.05	— 0.06	11.98	13 18 4.01	14.69
	α^2 Capricorni	37	31.6	33.6	34.9	44.6	45.5	46.7	48.0	49.1	58.9	0.2	2.3	10 46.85	0.04	12.35	20 10 34.46	17.47
	Lacaille 8418	38	13.5	15.8	17.4	29.3	30.4	31.9	33.3	34.6	46.5	48.0	50.5	14 31.93	0.01	12.36	20 14 19.56	20.25
	B. A. C. 7040	39	40.5	42.6	44.1	54.6	55.6	56.1	58.2	59.4	10.0	11.2	13.5	20 56.96	0.02	12.36	20 20 44.58	18.66
	* — 21° 44′	40	40.6	42.7	44.0	54.3	55.3	56.5	57.7	59.0	9.5	10.6	12.7	25 56.63	0.03	12.37	20 25 44.23	18.33
	B. A. C. 7113	41	2.0	4.2	5.5	16.0	17.0	18.3	19.7	20.8	31.4	32.8	35.0	30 18.43	0.02	12.37	20 30 6.04	18.64
	B. A. C. 7148	42	19.5	21.6	23.1	33.9	35.1	36.4	37.8	39.0	49.9	51.2	53.5	33 36.45	0.02	12.37	20 33 24.06	19.06
	Lacaille 8546	43	3.0	5.4	6.8	17.8	19.0	20.3	21.8	23.0	34.2	35.6	38.0	37 20.45	0.01	12.38	20 37 8.06	19.34
	μ Aquarii	44	20.3	22.3	23.6	33.1	34.2	35.5	36.7	37.7	47.5	48.7	50.8	45 35.49	0.05	12.38	20 45 23.06	17.07
	O. Arg. S. 21162	45	9.2	11.4	12.7	23.2	24.0	25.4	26.6	27.8	38.3	39.6	41.9	2 25.46	0.03	12.40	21 2 13.03	18.24
	B. A. C. 7359	46	23.1	25.3	26.7	37.3	38.3	39.6	40.9	42.1	52.7	54.0	56.3	5 39.66	0.02	12.40	21 5 27.24	18.44
	* — 23° 18′	47	29.3	31.2	32.6	43.0	44.1	45.3	46.7	47.8	58.2	59.5	1.7	14 45.40	0.03	12.41	21 14 32.96	18.16
	B. A. C. 7413	48	12.8	15.1	16.4	26.7	27.8	29.2	30.4	31.5	42.0	43.4	45.5	15 29.16	0.03	12.41	24 15 16.72	18.15
	B. A. C. 7436	49	59.0	1.2	2.5	12.9	14.0	15.3	16.7	17.8	28.2	29.7	31.8	18 15.37	0.02	12.41	21 18 2.94	18.23
	ξ Aquarii	†50	32.0	34.0	35.3	45.0	45.9	47.2	48.3	49.4	59.0	0.3	2.4	30 47.16	— 0.05	—12.43	—21 30 34.68	— 16.92

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	ε.
h.	s.	s.	s.
Aug. 12, 9.0	— 0.04	— 0.020	— 0.063
15, 19.9	1.47	0.022	. .
17, 15.9	2.42	0.027	. .
23, 4.5	11.32	0.067	. .
24, 19.0	12.29	0.054	0.063
5.0	— 12.89	— 0.060	— 0.060

14. Unsteady.
19. Through clouds.
22. Unsteady.
29. Through clouds.
31–32. Through clouds.
50. Cloudy.
August 15. Night cloudy.

r.

August 17, 23h. Image west 0.08. Clamp east.
24, 22h. Image east 0.02. Clamp east.
Image east 0.06. Clamp west.

s.

August 12–13, 7h. to 14h. n. = + 0.06.
15, . . . — 0.10.
16, 7h. to 10h. + 0.06.
17, . . . — 0.10.
23–24, 4h. to 14h. 0.03.
24, 20h. to 22h. 0.10.
4h. to 6h. — 0.03.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 24	ε Tauri	1	18.5	20.2	21.4	22.5	25.0	. .	28.5	31.2	32.5	33.9	35.3	19 56.90	— 0.34	—12.85	4 19 43.73	— 17.10
Y.	α Tauri	2	7.4	9.5	10.9	20.8	21.9	23.1	24.4	25.5	35.5	36.7	38.9	28 23.15	0.07	12.86	4 28 10.22	16.74
	Moon II	†3	59.0	1.3	2.5	12.8	13.8	15.1	16.5	17.5	28.2	29.4	31.6	7 15.25	0.08	12.90	5 7 2.27	. .
	β Tauri	4	40.7	43.0	44.5	55.3	56.5	57.8	59.1	0.4	11.3	12.7	15.0	17 57.85	0.09	12.91	5 17 44.85	18.15
	δ Orionis	5	3.9	5.9	7.2	16.7	17.7	18.8	19.9	21.0	30.7	31.9	33.9	25 18.87	0.06	12.91	5 25 5.90	14.57
	ε Orionis	6	19.1	21.1	22.4	31.8	32.8	34.0	35.2	36.3	46.0	47.0	49.0	29 34.06	0.06	12.92	5 29 21.08	14.44
R. 25	Moon II	7	8.0	10.1	11.4	21.7	22.8	24.2	25.4	26.6	37.1	38.4	39.6	2 24.12	0.07	14.53	6 2 9.52	. .
	μ Geminorum	8	45.0	47.0	48.5	58.7	59.8	1.1	2.3	3.6	14.1	15.3	17.4	15 1.16	0.08	14.55	6 14 46.53	17.09
	γ Geminorum	9	52.8	54.7	56.0	6.0	7.0	8.2	9.5	10.6	20.6	22.0	24.0	29 8.31	0.07	14.57	6 29 53.67	16.23
Y.	α^2 Geminorum	10	54.4	56.7	58.3	9.3	10.6	12.0	13.5	14.6	26.1	27.5	29.9	26 12.08	0.09	14.63	7 25 57.36	17.62
	α Canis Minoris	11	12.4	14.4	15.7	25.1	26.3	27.5	28.7	29.7	39.3	40.5	42.6	32 27.47	0.06	14.63	7 32 12.78	14.43
	β Geminorum	12	59.3	1.5	3.0	13.8	14.9	16.3	17.6	18.8	29.7	31.1	33.4	37 16.31	0.08	14.64	7 37 1.59	— 16.84
26	Sun I	13	9.8	11.9	13.3	23.0	24.0	25.3	26.4	27.5	37.3	38.6	40.5	21 25.24	0.07	14.82	10 21 10.35	. .
	Sun II	14	19.1	21.2	22.5	32.0	33.0	34.2	35.5	36.6	46.4	47.6	49.7	23 34.34	0.07	14.82	10 23 19.45	. .
	Venus I	†15	2.1	4.0	5.2	. .	. .	. .	. .	. .	29.1	30.3	32.5	5 17.20	0.10	14.87	11 5 2.23	+ 0.34
R. 27	Sun II	†16	59.8	1.9	3.1	13.0	14.0	15.1	16.2	17.3	27.2	28.3	30.3	27 15.11	0.07	. .	. . . .	. .
	Venus I	17	17.3	18.7	19.8	21.1	23.4	. .	24.3	26.5	27.8	29.2	30.6	9 53.87	0.30	. .	. . . .	+ 0.34
	Venus II	18	39.1	41.2	42.6	52.2	53.3	54.4	55.5	56.5	6.4	7.6	9.7	10 54.41	0.06	. .	. . . .	. .
	Moon II	19	8.8	10.9	12.0	22.1	23.3	24.6	25.8	27.0	37.1	38.5	40.5	47 24.60	0.07	. .	. . . .	. .
Y. 28	α^2 Geminorum	20	57.7	0.1	1.6	12.8	14.0	15.4	16.9	18.1	29.5	30.7	33.2	26 15.45	0.05	17.95	7 25 57.45	17.70
	α Canis Minoris	21	15.7	17.7	19.0	28.5	29.5	30.7	31.9	33.0	42.7	44.0	46.0	32 30.79	0.06	17.96	7 32 12.77	— 14.49
	β Geminorum	22	2.6	5.0	6.3	17.1	18.2	19.5	20.9	22.1	33.1	34.5	36.8	37 19.65	0.05	17.96	7 37 1.64	— 16.92
29	Sun I	23	10.5	12.4	13.7	23.4	24.4	25.6	26.7	27.9	37.6	38.7	40.7	32 25.60	0.04	18.08	10 32 7.48	. .
	Sun II	24	19.4	21.9	22.6	32.3	33.3	34.6	35.7	36.8	46.5	47.8	49.9	34 34.62	— 0.04	18.08	10 34 16.50	. .
	Mercury I	†25	26.1	27.5	28.5	. .	. .	. .	. .	. .	. .	. .	. .	9 27.37	+ 34.70	18.10	11 9 43.97	+ 0.25
	Polaris, S. P.	26	53.0	33.0	43.0	. .	. .	. .	. .	. .	. .	. .	. .	19 43.00	— 8 54.44	18.19	. . . .	. .
	μ Sagittarii	27	44.1	46.3	47.6	57.7	58.8	0.0	1.5	2.5	12.8	14.1	16.2	6 0.15	0.00	18.38	18 5 41.77	— 18.22
	B. A. C. 6220	28	29.4	31.5	32.8	43.7	44.9	46.2	47.6	48.8	59.8	1.2	3.4	13 46.30	+ 0.02	18.38	18 13 27.94	— 19.33
	δ Ursæ Minoris	29	. .	. .	. .	49.5	7.0	26.5	46.0	3.5	. .	. .	. .	16 26.50	— 2.82	18.39	. . . .	+ 84.36
	B. A. C. 6292	30	26.7	28.9	30.2	40.3	41.3	42.6	43.8	45.0	55.3	56.5	58.6	23 42.65	0.00	18.39	18 23 24.26	— 18.02
	B. A. C. 6310	31	. .	. .	. .	50.5	51.7	52.9	54.4	55.6	7.0	8.2	10.6	25 58.86	— 5.75	18.39	18 25 34.72	19.76
	B. A. C. 6334	32	31.2	33.5	34.9	46.3	47.5	48.8	50.3	51.5	3.1	4.5	6.8	29 48.94	+ 0.04	18.40	18 29 30.58	20.07
	B. A. C. 6361	33	56.5	58.6	59.9	9.5	10.5	11.6	12.8	13.9	23.8	24.8	27.0	35 11.72	— 0.03	18.40	18 34 53.29	16.85
	B. A. C. 6414	34	2.9	5.3	6.8	17.7	18.8	20.4	21.8	23.0	34.1	35.6	37.9	44 20.39	+ 0.03	18.41	18 44 2.01	19.78
	σ Sagittarii	35	55.9	58.1	59.4	10.0	11.1	12.5	13.8	15.0	25.8	27.0	29.3	47 12.54	0.02	18.41	18 46 54.15	19.10
	O. Arg. S. 18916	36	33.4	35.5	36.7	47.2	48.2	49.5	50.8	51.9	2.1	3.3	5.6	51 49.47	+ 0.01	18.41	18 51 31.07	18.48
	Weisse 1398	37	. .	. .	. .	16.4	17.6	19.7	35.0	37.4	38.6	39.8	41.3	56 30.73	— 26.28	18.41	18 55 46.04	16.73
	Weisse 1412	38	. .	. .	. .	. .	. .	. .	1.0	3.5	4.8	6.0	7.3	57 4.52	33.98	18.41	18 56 12.13	16.73
	B. A. C. 6533	39	2.0	4.2	5.6	16.0	17.2	18.4	19.8	20.9	31.6	32.9	35.0	0 18.51	0.01	18.42	19 0 0.08	18.88
	20 Aquilæ	40	25.0	27.2	28.4	38.0	39.0	40.2	41.3	42.4	52.1	53.3	55.5	5 40.22	0.03	18.42	19 5 21.77	16.82
	B. A. C. 6577	41	. .	. .	. .	. .	. .	. .	31.0	33.7	35.3	36.8	38.4	8 35.04	39.11	18.42	19 7 37.51	19.74
	ω Aquilæ	42	32.6	34.6	35.8	45.6	46.7	47.9	49.0	50.0	59.8	1.0	3.2	11 47.84	— 0.09	18.42	19 11 29.33	14.76
	B. A. C. 6627	43	59.1	1.3	2.8	13.9	15.0	16.4	17.6	18.9	30.3	31.7	34.0	16 16.45	+ 0.03	18.43	19 15 58.05	19.78
	B. A. C. 6639	44	26.2	28.4	29.8	41.0	42.0	43.4	44.8	45.9	57.1	58.5	0.8	18 43.45	+ 0.03	18.43	19 18 25.05	19.61
	O. Arg. S. 19708	45	. .	. .	. .	. .	. .	. .	57.2	0.0	1.3	2.8	4.2	27 1.10	— 37.90	18.43	19 26 4.77	19.23
	Weisse 719	46	26.4	28.1	29.4	39.1	40.1	41.3	42.5	43.5	53.4	54.6	56.8	29 41.38	— 0.03	18.44	19 29 22.91	17.17
	O. Arg. S. 19909	47	37.6	39.6	40.9	51.4	52.4	53.7	55.0	56.2	6.8	8.0	10.3	36 53.81	+ 0.01	18.44	19 36 35.38	18.68
	O. Arg. N. 19614	48	44.1	47.9	50.3	8.0	9.8	12.0	14.4	16.3	34.5	37.0	41.1	42 12.31	— 0.36	18.44	19 41 53.51	7.69
	O. Arg. S. 20086	49	35.3	36.8	38.1	39.4	41.9	. .	48.5	51.3	52.4	54.0	55.4	49 15.31	— 0.24	—18.45	19 48 56.62	— 18.89

3. Very faint; through clouds.
15. Very faint; through clouds.
16. Through clouds.
25. Through clouds.

		s.
August 25–26,	n. =	— 0.03.
28–29,	7h. to 14h.	+ 0.03.
	18h. to 22h.	— 0.16.
29–30,	7h. to 14h.	0.00.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Aug. 25,	7.0	— 14.60	— 0.066	+ 0.060
29,	14.1	— 18.22	— 0.040	— 0.055

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 29	O. Arg. S. 20095	1	47.3	48.7	50.1	51.4	54.0	. .	0.5	3.2	4.5	6.0	7.4	49 27.31	— 0.24	—18.45	19 49 8.62	— 18.89
Y.	* + 6° 38′	2	27.5	29.3	30.7	40.3	41.4	42.5	43.7	44.7	54.3	55.6	57.7	53 42.52	0.07	18.45	19 53 24.00	15.47
	Dorpat 2612, (1st *)	3	30.0	31.4	32.6	33.8	35.1	. .	36.5	39.0	40.1	41.4	42.8	55 6.27	0.31	18.45	19 54 47.51	15.49
	Dorpat 2612, (2d *)	4	53.3	55.1	56.4	5.8	6.9	8.1	9.3	10.4	19.8	21.3	23.4	55 8.16	0.07	18.45	19 54 49.64	15.49
	Dorpat 2615	5	25.8	28.0	29.2	38.7	39.7	40.8	42.0	43.1	52.9	54.0	56.2	56 40.95	0.08	18.45	19 56 22.42	15.36
	Weisse 1512	6	4.3	6.5	7.7	17.5	18.5	19.8	21.0	22.0	32.0	33.3	35.3	1 19.81	0.01	18.46	20 1 1.34	17.60
	* — 14° 14′	7	0.4	2.6	3.8	13.6	14.5	15.7	16.9	18.0	28.0	29.3	31.6	4 15.85	0.01	18.46	20 3 57.38	17.55
	Weisse 81	8	18.1	20.2	21.5	31.1	32.2	33.4	34.6	35.8	45.7	47.0	49.0	5 33.51	0.01	18.46	20 5 15.04	— 17.55
	λ Ursæ Minoris	9	. .	. .	. .	. .	. .	. .	18.5	29.0	32.0	40.5	50.0	30 22.00	29 42.87	18.47	. . . .	+ 214.64
	α^2 Capricorni	10	37.6	. .	40.8	50.7	51.6	52.9	54.2	55.2	5.0	. .	8.3	10 52.92	— 0.02	18.46	20 10 34.44	— 17.44
	Lacaille 8546	11	9.1	11.4	12.9	23.8	24.9	26.5	27.8	29.0	40.2	41.7	44.0	37 26.48	+ 0.03	18.47	20 36 8.04	19.32
	Lacaille 8574	12	4.2	6.5	8.1	19.0	20.1	21.5	23.0	24.2	35.3	36.8	39.0	41 21.61	0.03	18.48	20 41 3.16	19.25
	B. A. C. 7244	13	7.9	10.1	11.5	21.9	23.0	24.3	25.7	27.0	37.5	38.7	41.0	46 24.42	+ 0.01	18.49	20 46 5.94	18.47
	32 Vulpeculæ	†14	51.3	53.5	54.8	5.6	6.8	8.2	9.5	10.6	21.5	22.8	25.1	49 8.15	— 0.15	18.49	20 48 49.51:	14.02
	O. Arg. S. 21046	15	20.9	22.9	24.3	34.4	35.4	36.6	37.9	39.1	49.5	50.7	52.8	54 36.77	0.00	18.49	20 54 18.26	17.96
	O. Arg. S. 21053	16	8.0	10.0	11.4	21.5	22.6	23.8	25.0	26.2	36.5	37.7	39.8	55 23.86	0.00	18.49	20 55 5.37	17.96
	B. A. C. 7340	17	24.9	27.2	28.5	38.8	39.8	41.1	42.5	43.6	54.2	55.5	57.7	1 41.25	+ 0.01	18.50	21 1 22.76	18.85
	ζ Cygni	†18	14.2	16.3	17.8	28.8	29.9	31.2	32.5	33.6	45.0	46.2	48.6	7 31.28	— 0.15	18.50	21 7 12.93:	14.09
R.	α Canis Minoris	19	16.8	18.8	20.0	29.7	20.6	31.8	33.0	34.0	43.7	44.9	46.9	32 31.84	0.06	18.94	7 32 12.84	14.51
	β Geminorum	20	3.7	5.9	7.2	18.0	19.2	20.5	21.9	33.2	34.0	35.4	37.7	37 20.61	0.06	18.94	7 37 1.61	16.94
30	Sun II	21	58.9	0.9	2.1	11.8	12.8	14.0	15.3	16.3	26.0	27.4	29.3	38 14.07	0.06	19.10	10 37 54.91	— 64.41
	Venus I	22	23.6	25.6	26.8	36.3	37.4	38.6	39.8	40.9	50.7	57.8	53.8	23 38.66	0.06	19.14	11 23 19.46	. .
	Venus II	23	3.1	4.6	5.7	6.9	9.3	. .	10.0	12.3	13.6	14.9	16.0	23 39.64	— 0.30	19.14	11 23 20.20	. .
	Mercury I	†24	47.7	49.5	50.8	. .	. .	. .	. .	. .	. .	. .	. .	12 49.33	+ 13.22	19.18	12 12 43.37	+ 0.25
	Polaris, S. P.	†25	. .	. .	. .	19.0	38.0	51.0	0.5	22.0	. .	. .	. .	10 50.10	+ 0.29	19.23	. . . .	— 148.73
	α Virginis	†26	. .	. .	. .	. .	. .	. .	. .	. .	35.0	36.6	38.7	18 36.76	— 13.58	19.24	13 18 3.94	14.63
	ζ Aquilæ	†27	17.1	19.0	20.5	30.2	31.2	32.5	33.7	34.7	44.8	46.0	48.1	59 32.53	0.09	19.53	18 59 12.91	14.38
20	Aquilæ	†28	26.3	28.3	29.6	. .	. .	. .	. .	. .	53.4	54.6	56.6	5 41.47	0.07	19.54	19 5 21.86	— 16.82
	λ Ursæ Minoris	29	. .	. .	. .	. .	. .	. .	. .	27.0	28.0	37.0	51.0	31 5.75	30 28.68	19.61	. . . .	+ 215.46
	B. A. C. 7180	30	2.0	3.4	4.8	6.1	8.7	. .	14.5	17.0	18.5	19.9	21.3	38 41.62	0.25	19.62	20 38 21.75	— 18.51
	μ Aquarii	31	27.5	29.5	30.7	40.3	41.3	42.6	43.8	44.9	54.8	55.9	57.8	45 42.65	— 0.03	19.62	20 45 23.00	17.05
	Lacaille 8658	32	52.7	54.9	56.4	7.2	8.4	9.8	11.0	12.4	23.3	24.8	27.1	55 9.82	+ 0.03	19.63	20 54 50.22	18.98
	Lacaille 8691	33	25.6	27.7	29.2	39.9	40.9	42.2	43.7	44.9	55.8	57.0	59.4	59 42.39	0.02	19.64	20 59 22.77	18.74
	O. Arg. S. 21162	34	16.5	18.5	19.8	30.2	31.3	32.6	33.9	35.0	45.6	46.8	49.2	2 32.67	+ 0.01	19.64	21 2 13.04	18.22
	ζ Cygni	35	15.3	17.7	18.9	30.0	31.0	32.4	33.9	35.1	46.2	47.8	50.2	7 32.59	— 0.15	19.64	21 7 12.80	14.09
Y. 31	O. Arg. S. 17443	36	31.9	34.0	35.4	45.5	46.6	47.8	49.0	50.3	0.5	1.8	4.1	51 47.90	0.02	20.34	17 51 27.54	18.12
	γ^2 Sagittarii	37	11.4	13.8	15.1	26.1	27.3	28.8	30.1	31.4	42.5	43.9	46.3	57 28.79	0.00	20.35	17 57 8.44	19.50
	* — 23° 9′	38	54.9	57.1	58.4	8.7	9.8	11.1	12.5	13.7	24.0	25.4	27.5	5 11.19	0.02	20.35	18 4 50.82	18.48
	* — 28° 46′	39	. .	. .	. .	3.7	4.9	6.3	7.5	8.8	19.7	21.2	23.5	8 11.95	5.66	20.35	18 7 45.94	— 19.32
	δ Ursæ Minoris	40	16.5	48.5	10.0	. .	. .	. .	. .	. .	47.2	7.5	43.0	16 28.78	3.29	20.36	. . . .	+ 85.12
	1 Aquilæ	41	57.4	59.4	0.6	10.1	11.1	12.3	13.6	14.7	24.4	25.6	27.7	28 12.45	0.04	20.37	18 27 52.04	— 16.68
	O. Arg. S. 18505	42	9.0	10.4	11.8	13.2	15.9	. .	22.3	25.2	26.4	27.8	29.4	31 49.14	0.27	20.37	18 31 28.50	18.92
	O. A. S. 18506,(1st *)	43	36.0	38.0	39.4	. .	. .	. .	. .	. .	5.5	6.7	8.9	31 52.42	0.05	20.37	18 31 32.00	18.92
	O. A. S. 18506,(2d *)	44	. .	. .	. .	50.3	51.3	52.6	54.0	55.3	. .	. .	. .	31 52.70	0.04	20.37	18 31 32.37	18.92
	O. Arg. S. 18564	45	29.3	31.3	32.7	42.9	43.9	45.0	46.3	47.5	57.8	59.1	1.1	34 45.17	0.02	20.37	18 34 24.78	18.21
	O. Arg. S. 18604	46	16.2	18.4	19.7	29.7	30.8	32.0	33.4	34.4	44.8	46.0	48.0	36 32.13	0.02	20.37	18 36 11.74	18.09
	Lalande 34860	47	21.5	23.5	24.9	34.9	36.0	37.3	38.4	39.6	49.8	51.0	53.2	40 37.28	0.02	20.38	18 40 16.88	18.09
	* — 19° 18′	48	43.7	45.7	47.0	57.2	58.3	59.5	0.7	1.9	12.0	13.2	15.2	41 57.49	0.02	20.38	18 41 37.09	18.08
	B. A. C. 6414	49	19.7	20.9	22.2	23.7	24.8	. .	57.5	0.4	1.8	3.3	4.8	44 41.91	19.58	20.38	18 44 1.95	19.75
	σ Sagittarii	50	57.6	59.9	1.3	11.8	13.0	14.4	15.8	16.8	27.7	28.9	31.2	47 14.40	— 0.01	—20.38	18 46 54.01	— 19.07

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 30, 14.9	— 19.32	— 0.052	— 0.055
31, 19.6	— 20.42	— 0.046	. .

14. Unsteady.
18. Unsteady.
22–23. Unsteady.
24. Through clouds.
25. With clock beat.
26. Through clouds.
27. Throw out two stars before this.
28. Very faint; through clouds.

		s.
August 29–30,	7h. to 14h. n. =	0.00.
30,	19h. to 22h.	— 0.16.
31,	17h. to 19h.	0.10.
	19h. to 20h.	0.13.
	20h. to 22h.	— 0.20.

August 30. Night cloudy.

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 31		O. Arg. S. 18916 .	1	35.1	37.3	38.7	48.9	49.9	51.3	52.4	53.7	4.1	5.4	7.5	51 51.30	— 0.02	—20.39	18 51 30.89	— 18.46
Y.	ζ	Sagittarii . . .	2	4.8	7.0	8.4	19.3	20.5	21.8	23.4	24.6	35.8	37.0	39.4	54 22.00	0.00	20.39	18 54 1.61	19.62
		B. A. C. 6505 . .	3	32.6	34.7	36.2	46.6	47.8	49.2	50.4	51.7	2.2	3.4	5.7	56 49.14	0.01	20.39	18 56 28.74	18.94
		B. A. C. 6531 . .	4	39.9	42.0	43.4	53.8	54.8	56.1	57.5	58.8	9.6	10.7	13.1	59 56.34	— 0.01	20.39	18 59 35.94	19.01
		B. A. C. 2320, S. P.	5	. .	. .	. .	47.0	48.0	43.0	36.0	38.0	. .	. .	. .	15 42.40	+ 6.24	20.40	7 15 28.24	319.75
		O. Arg. S. 19685 .	6	45.9	48.0	49.4	0.2	1.4	2.7	4.0	5.0	16.3	17.4	19.6	25 2.72	— 0.01	20.41	19 24 42.30	19.19
		O. Arg. S. 19694 .	7	40.0	42.0	43.4	54.4	55.5	56.8	58.1	59.2	10.2	11.4	13.8	25 56.80	0.01	20.41	19 25 36.38	19.20
		O. Arg. S. 19708 .	8	. .	. .	. .	22.6	23.7	25.0	26.3	27.5	38.4	39.6	41.9	26 30.62	5.60	20.41	19 26 4.61	19.20
		O. Arg. S. 19713 .	9	. .	. .	. .	30.6	31.6	32.9	34.3	35.4	46.3	47.8	50.0	26 38.61	5.60	20.41	19 26 12.60	19.20
	κ	Aquilæ	10	43.7	45.7	46.8	56.4	57.4	58.6	59.8	0.8	10.5	11.8	13.8	29 58.66	0.04	20.41	19 29 38.21	16.78
		O. Arg. S. 19909 .	11	39.5	41.6	42.9	53.4	54.4	55.8	57.0	58.1	8.7	9.9	12.1	36 55.76	0.02	20.42	19 36 35.32	18.66
		O. Arg. S. 20030 .	12	50.9	53.1	54.3	4.8	5.9	7.2	8.4	9.6	20.0	21.3	23.6	45 7.19	0.02	20.42	19 44 46.75	18.64
		B. A. C. 6814 . .	13	. .	. .	. .	46.3	47.9	50.0	6.6	9.3	10.7	12.0	13.4	47 2.02	28.57	20.43	19 46 13.02	18.73
		B. A. C. 6829 . .	14	. .	. .	. .	. .	. .	. .	15.3	18.0	19.4	21.0	22.5	49 19.24	39.23	20.43	19 48 19.58	19.63
		B. A. C. 6841 . .	15	30.1	32.5	33.9	44.9	46.0	47.6	48.9	50.1	1.4	2.6	5.1	50 47.55	0.00	20.43	19 50 27.12	19.62
		Dorpat 2613 (1st *)	16	6.2	8.2	9.5	19.2	20.2	21.5	22.7	23.8	33.4	34.6	36.8	55 21.46	0.07	20.43	19 55 0.96	15.10
		Dorpat 2613 (2d *)	17	44.9	46.3	47.6	48.8	51.2	. .	52.3	54.6	55.9	57.3	58.6	55 21.75	0.31	20.43	19 55 1.01	15.10
		Weisse 1394 . .	18	. .	. .	. .	3.7	4.7	5.9	7.0	8.1	17.9	19.1	21.0	56 10.92	5.11	20.43	19 55 45.38	— 15.09
	λ	Ursæ Minoris . .	19	. .	. .	. .	53.0	45.0	47.0	51.0	45.0	. .	. .	. .	0 48.20	10.45	20.44	. . . .	+ 216.46
		Weisse 81 . . .	20	. .	. .	. .	47.6	48.8	51.0	6.5	9.2	10.3	11.6	13.0	6 2.25	26.85	20.44	20 5 14.96	— 17.54
		Weisse 122 . . .	21	. .	. .	. .	9.9	11.2	13.1	28.8	31.2	32.6	33.8	35.2	7 24.48	— 26.86	20.44	20 6 37.18	17.52
		O. Arg. S. 20370 .	22	7.0	9.3	10.7	21.3	22.3	23.6	24.9	26.0	36.7	38.1	40.4	10 23.66	+ 0.03	20.45	20 10 3.24	18.79
		O. Arg. S. 20393 .	23	. .	. .	. .	9.4	10.5	12.8	29.6	32.3	33.5	34.9	36.5	12 28.69	— 28.69	20.45	20 11 39.55	18.74
		Lacaille 8517 . .	24	54.4	56.8	58.2	9.8	10.9	12.4	13.8	15.0	26.6	28.0	30.7	32 12.42	+ 0.07	20.46	20 31 52.03	19.75
		O. Arg. S. 20765 .	25	39.0	41.1	42.5	53.0	54.1	55.4	56.6	57.9	8.5	9.8	12.0	35 55.45	0.03	20.47	20 35 35.01	18.62
		O. Arg. S. 20827 .	26	37.0	39.3	40.6	51.2	52.3	53.6	54.8	55.9	6.7	7.9	10.3	38 53.60	0.03	20.47	20 38 33.16	18.63
		Lacaille 8585 . .	27	23.0	25.2	26.6	38.0	39.3	40.6	41.9	43.2	54.8	56.0	58.4	42 40.64	0.06	20.47	20 42 20.23	19.42
	μ	Aquarii	28	28.2	30.2	31.6	41.2	42.1	43.4	44.6	45.7	55.5	56.6	58.6	45 43.43	0.02	20.47	20 45 22.94	17.05
		Lacaille 8642 . .	29	9.8	12.3	13.8	25.3	26.3	27.8	29.1	30.5	42.1	43.5	46.0	53 27.86	0.07	20.48	20 53 7.45	19.46
		Lacaille 8681 . .	30	3.4	5.8	7.3	18.9	20.0	21.6	23.2	24.4	36.0	37.5	40.0	58 21.65	0.08	20.48	20 58 1.25	19.63
		Lacaille 8693 . .	31	12.4	14.8	16.5	28.4	29.6	31.3	32.8	34.0	46.2	47.7	50.3	0 31.27	0.09	20.48	21 0 10.88	19.96
		Lacaille 8722 . .	32	24.9	27.3	28.9	40.7	42.0	43.4	44.9	46.1	58.0	59.6	2.1	4 43.45	0.08	20.49	21 4 23.04	19.70
		Lacaille 8742 . .	33	24.7	27.1	28.6	40.4	41.6	43.0	44.6	45.8	58.0	59.4	2.1	7 43.21	0.08	20.49	21 7 22.80	19.72
		Lacaille 8791 . .	34	9.9	12.6	13.9	26.4	27.5	29.0	30.5	31.8	44.4	45.6	48.2	15 29.07	0.09	20.50	21 15 8.66	19.81
		B. A. C. 7432 . .	35	58.2	0.7	2.5	14.4	15.7	17.2	18.7	20.1	32.4	33.8	36.6	18 17.30	0.09	20.50	21 17 56.89	19.78
		Lacaille 8823 . .	36	. .	10.9	12.6	24.7	25.9	27.5	29.0	30.4	42.9	44.2	. .	21 27.57	0.10	20.50	21 21 7.17	19.76
		Lacaille 8846 . .	37	25.2	27.7	29.2	41.3	42.5	44.0	44.5	46.8	58.9	0.4	2.9	26 44.04	0.09	20.50	21 26 23.63	19.50
		* — 36° 30′ . .	38	39.2	41.5	42.9	55.1	56.3	57.8	59.4	0.6	12.6	14.0	16.5	28 57.81	0.08	20.51	21 28 37.38	19.37
		Lacaille 8854 . .	39	45.7	48.2	49.8	1.6	2.9	4.4	5.8	7.0	19.1	20.5	23.0	29 4.36	0.08	20.51	21 28 43.93	19.37
		Lacaille 8873 . .	40	22.5	24.8	26.4	38.0	39.2	40.6	42.0	43.4	55.0	56.5	59.0	32 40.67	+ 0.08	20.51	21 32 20.24	19.15
		Lacaille 8887 . .	41	. .	. .	. .	48.0	49.5	52.3	11.6	14.7	16.2	17.8	19.6	35 6.21	— 33.18	20.51	21 34 12.52	19.52
		Lacaille 8896 . .	42	. .	. .	. .	. .	. .	. .	10.7	13.6	15.5	17.0	18.9	37 15.14	43.32	20.51	21 36 11.31	19.56
		Lacaille 8900 . .	43	. .	. .	. .	. .	. .	. .	39.7	42.9	44.4	46.2	48.1	37 44.26	43.25	20.51	21 36 40.50	19.54
		Lacaille 8915 . .	44	. .	. .	. .	56.6	58.0	0.5	20.1	23.2	24.7	26.2	28.0	40 14.66	33.19	20.52	21 39 20.95	19.43
	μ	Capricorni . . .	45	1.9	4.0	5.3	15.2	16.2	17.6	18.7	19.7	29.6	30.9	33.0	46 17.46	0.01	20.52	21 45 56.93	17.33
R.	a	Hydræ	†46	1.9	3.8	5.2	14.7	15.7	17.0	18.0	19.0	28.9	30.0	32.0	21 16.93	0.06	21.07	9 20 55.80	13.35
Sept. 1		Sun II	†47	16.7	18.5	19.8	29.5	30.5	31.7	33.0	34.0	43.8	45.0	47.1	45 31.78	0.05	21.13	10 45 10.60	— 64.32
R.		Venus I	†48	10.2	11.2	12.7	13.8	16.1	. .	16.5	19.0	20.3	21.5	23.0	32 46.43	0.29	21.17	11 32 24.97	. .
		Venus II . . .	†49	31.9	33.7	35.3	44.7	45.7	46.9	48.0	49.2	58.8	0.1	2.2	32 46.95	0.05	21.17	11 32 25.73	. .
		Mercury I . . .	†50	15.4	17.3	18.6	28.1	29.3	30.3	31.5	32.5	42.1	43.4	45.5	18 30.36	— 0.06	—21.20	12 18 9.10	+ 0.26

46. Very faint.
47. Flaming and unsteady.
48–49. Unsteady.
50. Unsteady.

August 31–September 1, 9h. to 14h. n. = + 0.06.
20h. to 22h. — 0.08.

August 31. Image west 0.08. Clamp east.
September 1. Cloudy; stars faint.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 1, 17.8	— 21.44	— 0.043	0.055

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 1	Polaris, S. P.	1	. .	. .	. .	26. 0	45. 0	56. 0	7. 0	23. 0	. .	. .	. .	10 55. 40	— 2. 13	—21. 24	13 10 32. 03	— 149. 70
R.	α Virginis	2	9. 9	12. 1	13. 4	23. 0	24. 0	25. 2	26. 4	27. 6	37. 3	38. 4	40. 4	18 25. 25	0. 07	21. 25	13 18 3. 93	— 14. 60
	λ Ursæ Minoris	3	. .	. .	. .	43. 0	40. 0	42. 0	46. 0	42. 0	. .	. .	. .	0 42. 60	4. 59	21. 53	. . . .	+ 217. 31
	ε Delphini	4	53. 0	55. 0	56. 3	6. 0	7. 0	8. 3	9. 5	10. 5	20. 5	21. 5	23. 6	27 8. 29	0. 07	21. 55	20 27 46. 67	— 15. 24
	Weisse 743	5	0. 7	2. 9	4. 0	13. 5	14. 5	15. 7	16. 9	17. 9	27. 5	28. 7	30. 7	30 15. 73	0. 06	21. 56	20 29 54. 12	16. 05
	Weisse 905	6	4. 6	6. 6	7. 8	17. 2	18. 3	19. 5	20. 6	21. 6	31. 3	32. 5	34. 5	36 19. 50	0. 06	21. 56	20 35 57. 88	16. 01
	Weisse 1057	7	45. 4	47. 2	48. 5	58. 0	59. 0	0. 2	1. 3	2. 4	12. 0	13. 1	15. 3	42 0. 22	0. 06	21. 56	20 41 38. 60	15. 98
	μ Aquarii	8	29. 6	31. 5	32. 5	42. 5	43. 4	44. 7	45. 9	46. 9	56. 6	58. 0	0. 0	45 44. 69	0. 04	21. 57	20 45 23. 08	17. 04
	β Aquarii	9	34. 5	36. 4	37. 9	47. 2	48. 3	49. 3	50. 6	51. 7	1. 5	2. 6	4. 8	24 49. 53	0. 05	21. 60	21 24 7. 88	16. 74
	B. A. C. 7492	10	38. 5	40. 6	42. 0	52. 4	53. 4	54. 7	56. 0	57. 1	7. 6	9. 1	11. 1	27 54. 77	0. 02	21. 60	21 27 33. 15	18. 11
	Lacaille 8870	11	21. 4	23. 5	25. 0	35. 6	36. 7	38. 1	39. 5	40. 5	51. 5	52. 8	55. 4	31 38. 18	0. 02	21. 60	21 31 16. 56	18. 42
	Lacaille 8891	12	19. 6	22. 0	23. 4	34. 2	35. 4	36. 7	38. 0	39. 2	50. 4	51. 5	53. 8	34 36. 75	0. 02	21. 60	21 34 15. 13	18. 42
	Lacaille 8907	13	44. 0	46. 2	47. 7	58. 5	59. 5	0. 9	2. 4	3. 6	14. 4	15. 8	18. 3	38 1. 04	0. 02	21. 60	21 37 39. 42	18. 43
	Lacaille 8941	14	49. 7	51. 7	53. 2	3. 5	4. 6	5. 8	7. 1	8. 5	18. 9	20. 2	22. 5	44 5. 97	0. 02	21. 61	21 43 44. 34	17. 94
	μ Capricorni	15	3. 2	5. 0	6. 3	16. 1	17. 3	18. 5	19. 7	20. 8	30. 9	32. 0	34. 0	46 18. 50	— 0. 04	—21. 61	21 45 56. 85	17. 33
Y. 2	Sun I	16	46. 4	48. 3	49. 6	59. 1	0. 1	0. 5	2. 7	3. 7	13. 4	14. 7	16. 6	47 1. 46	. .	. .	. . . .	. .
	Sun II	17	54. 9	56. 7	58. 1	7. 8	8. 8	9. 8	11. 1	12. 3	22. 0	23. 1	25. 0	49 9. 96	. .	. .	. . . .	. .
	λ Ursæ Minoris	18	58. 0	13. 0	17. 0	19. 0	23. 0	. .	. .	. .	. .	. .	. .	30 26. 00	+29 55. 66	. .	. . . .	. .
	β Aquilæ	†19	. .	. .	. .	45. 4	46. 4	47. 5	48. 7	49. 7	. .	. .	. .	47 47. 54	— 0. 02	. .	. . . .	15. 47
	α^2 Capricorni	†20	25. 0	27. 0	28. 3	38. 0	39. 0	40. 2	41. 4	42. 4	52. 4	53. 5	55. 6	9 40. 25	— 0. 02	. .	. . . .	17. 41
Oct. 20	Polaris	†21	37. 0	57. 5	48. 5	11. 0	52. 0	42. 0	28. 0	10. 0	27. 0	22. 0	40. 0	10 40. 60	+ 1. 01	+ 6. 65	1 10 48. 26	163. 81
	γ Ceti	22	58. 4	0. 2	1. 7	11. 1	12. 1	13. 3	14. 4	15. 5	25. 1	26. 2	28. 4	36 13. 31	— 0. 15	6. 58	2 36 19. 74	16. 81
	α Ceti	23	53. 4	55. 4	56. 7	6. 0	7. 1	8. 3	9. 6	10. 6	20. 3	21. 4	23. 5	55 8. 39	0. 15	6. 57	2 55 14. 81	16. 92
	Polaris, S. P.	24	. .	. .	. .	13. 0	32. 0	43. 0	56. 0	12. 0	. .	. .	. .	10 43. 20	1. 01	6. 07	1 10 48. 26	163. 76
21	α Ophiuchi	25	18. 2	20. 2	21. 6	31. 2	32. 3	33. 5	34. 7	35. 9	45. 6	46. 9	49. 0	28 33. 55	0. 14	5. 87	. . . .	— 13. 09
	δ Ursæ Minoris	26	26. 0	59. 0	20. 0	0. 0	17. 0	37. 0	57. 7	15. 5	58. 2	18. 0	52. 7	15 38. 28	0. 14	5. 83	. . . .	+ 106. 22
24	Polaris, S. P.	27	. .	. .	. .	13. 0	29. 5	42. 5	54. 0	11. 5	. .	. .	. .	10 42. 10	0. 79	3. 17	1 10 44. 48	— 163. 09
	α Virginis	28	. .	. .	. .	13. 0	14. 1	16. 3	31. 5	33. 9	35. 3	36. 6	38. 0	18 27. 34	26. 66	3. 17	13 18 3. 85	— 14. 62
	Mercury I	29	21. 0	23. 0	24. 4	. .	. .	. .	. .	. .	48. 1	49. 3	51. 4	25 36. 20	0. 23	3. 17	13 25 39. 14	. .
	Mercury II	30	. .	. .	. .	34. 2	35. 2	36. 4	37. 5	38. 6	. .	. .	. .	25 36. 38	0. 14	3. 17	13 25 39. 41	. .
25	Sun I	31	59. 0	0. 9	2. 3	12. 0	13. 0	14. 4	15. 6	16. 7	26. 3	27. 7	29. 8	0 14. 34	— 0. 20	3. 17	14 0 17. 31	. .
	Venus I	†32	48. 5	49. 9	51. 3	52. 5	55. 0	. .	. .	. .	. .	. .	. .	44 51. 44	+ 35. 30	3. 16	15 45 29. 90	+ 0. 41
	α Herculis	33	10. 2	12. 2	13. 5	23. 3	24. 4	25. 6	26. 8	27. 9	37. 9	38. 9	41. 1	8 25. 62	— 0. 14	3. 15	17 8 28. 63	— 12. 70
	α Ophiuchi	34	20. 9	23. 0	24. 3	33. 9	35. 0	36. 2	37. 5	38. 6	48. 5	49. 5	51. 6	28 36. 27	0. 14	3. 14	17 28 39. 27	13. 03
	δ Ursæ Minoris	35	26. 5	59. 5	21. 5	2. 0	19. 0	39. 2	59. 2	16. 0	59. 2	19. 0	53. 5	15 39. 51	0. 48	3. 14	18 15 42. 17	. .
	α Lyræ	36	59. 3	1. 8	3. 5	15. 5	16. 8	18. 4	19. 9	21. 2	33. 5	35. 0	37. 7	32 18. 42	0. 10	3. 14	18 32 21. 46	9. 48
	B. A. C. 7665	37	27. 4	29. 6	30. 9	40. 9	41. 9	43. 1	44. 4	45. 4	55. 7	56. 9	59. 0	54 43. 20	0. 21	3. 12	21 54 46. 11	16. 99
	α Aquarii	38	33. 5	35. 5	36. 8	46. 2	47. 2	48. 5	49. 6	50. 7	0. 3	1. 6	3. 6	58 48. 50	0. 17	3. 12	21 58 51. 45	15. 99
	36 Aquarii	39	0. 7	2. 8	4. 0	13. 7	14. 6	15. 9	17. 1	18. 1	28. 0	29. 0	31. 2	2 15. 92	0. 18	3. 12	22 2 18. 86	16. 42
	* — 26° 24′	40	13. 3	15. 4	17. 0	27. 4	28. 6	29. 9	31. 3	32. 3	43. 0	44. 4	46. 8	7 29. 95	0. 24	3. 12	22 7 32. 83	17. 36
	Weisse 331	41	38. 9	40. 9	42. 3	51. 9	52. 8	54. 1	55. 4	56. 4	6. 2	7. 3	9. 5	16 54. 15	0. 19	3. 12	22 16 57. 08	16. 57
	Weisse 346	42	. .	. .	. .	15. 9	16. 9	18. 2	19. 4	20. 5	30. 3	31. 5	33. 5	17 23. 28	5. 25	3. 12	22 17 21. 15	16. 57
	35 Pegasi	43	44. 3	46. 1	47. 5	57. 0	57. 9	59. 1	0. 3	1. 3	11. 0	12. 1	14. 2	20 59. 16	0. 16	3. 12	22 21 2. 12	15. 89
	Lacaille 9159	44	. .	. .	. .	. .	. .	. .	55. 4	58. 3	59. 8	1. 3	2. 6	23 59. 48	39. 80	3. 12	22 23 22. 80	17. 61
	O. Arg. S. 22237	45	3. 3	5. 4	6. 7	16. 8	17. 9	19. 3	20. 6	21. 5	31. 9	33. 1	35. 4	22 19. 26	0. 22	3. 12	22 27 22. 16	16. 96
	O. Arg. S. 22291	46	34. 0	36. 3	37. 7	48. 4	49. 5	50. 9	52. 2	53. 4	4. 4	5. 7	7. 8	30 50. 94	0. 24	3. 11	22 30 53. 81	17. 29
	ε Piscis Australis	47	51. 6	53. 8	55. 3	6. 0	7. 1	8. 4	9. 9	11. 0	21. 8	23. 2	25. 6	33 8. 52	0. 24	3. 11	22 33 11. 39	17. 28
	O. Arg. S. 22373	48	44. 4	46. 6	48. 0	58. 6	59. 7	0. 9	2. 3	3. 4	14. 3	15. 7	18. 0	37 1. 10	0. 24	3. 11	22 37 33. 97	17. 21
	Lacaille 9269	49	38. 6	40. 8	42. 2	52. 6	53. 6	55. 0	56. 2	57. 5	8. 0	9. 3	11. 5	41 55. 03	— 0. 23	+ 3. 11	22 41 57. 91	— 17. 02

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	ϵ.
h.	s.	s.	s.
Sept. 2, 20. 0	+ 54. 16	. .	— 0. 055
Oct. 20, 2. 8	6. 57	— 0. 048	0. 153
21, 17. 5	5. 87	0. 048	— 0. 168
25, 21. 6	+ 3. 12	— 0. 006	. .

1. Faint and unsteady. 19–20. Cloudy. 21. Reduced from set C. 32. Cloudy.

September 2, 19h. to 21h. n. $= -0.16^s$.

September 2, 17h. Found the cord of clock weight broken; started the clock again at 19h.

September 2, 20h. 30m. Image west 0.10^r. Clamp east.
Image west 0.09^r. Clamp west.

September 2 to October 20. The instrument was being dismounted and remounted in the east room.

October 20. Adjusted the collimation, and from the passage of Polaris over set A adjusted the azimuth.

October 20 . . . . n. $= +0.13^s$.
21 . . . . 0.16^s.
24–25, 13h. to 19h. 0.14^s.
25, 21h. to 3h. $+0.10^s$.

October 24, 0h. 30m. Image east 0.09^r. Clamp east.
Image east 0.31^r. Clamp west.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 25	λ Aquarii	1	16.8	18.8	20.0	29.6	30.6	31.9	33.1	34.2	43.8	45.1	47.3	45 31.93	— 0.18	+ 3.11	22 45 34.86	— 16.41
Y.	Lalande 45137 . .	2	46.1	48.1	49.4	59.4	0.5	1.8	3.0	4.1	14.3	15.6	17.7	58 1.82	0.21	3.11	22 58 4.72	16.70
	Lalande 45473 . .	3	5.5	7.7	8.9	19.0	20.1	21.4	22.6	23.7	34.0	35.3	37.4	7 21.42	0.21	3.11	23 7 24.32	16.70
	Lacaille 9440 . .	4	40.0	42.6	44.4	56.5	57.8	59.5	1.0	2.3	14.9	16.5	19.0	11 59.50	0.30	3.11	23 12 2.31	17.34
	O. Arg. S. 22817 .	5	1.6	3.8	5.0	15.0	16.0	17.3	18.6	19.5	29.8	31.0	33.2	17 17.35	0.21	3.11	23 17 20.25	16.60
	B. A. C. 8184 . .	6	. .	. .	. .	29.0	30.0	31.2	32.3	33.4	43.0	44.3	46.3	22 36.19	5.16	3.11	23 22 34.14	16.39
	O. Arg. S. 22911 .	7	15.7	17.7	19.0	29.0	30.0	31.3	32.5	33.6	43.8	45.0	47.0	27 31.33	— 0.21	3.11	23 27 34.23	16.55
	Weisse 613 . . .	8	3.5	5.7	6.9	16.4	17.3	18.5	19.7	20.8	. .	. .	. .	30 13.60	+ 4.82	3.11	23 30 21.53	16.36
	ι Piscium	9	56.2	57.3	58.5	59.6	0.7	. .	28.9	31.3	32.5	33.8	35.1	33 15.39	— 17.02	3.11	23 33 1.48	16.48
	Lacaille 98 . . .	10	23.3	25.5	27.0	38.0	39.1	40.4	41.7	42.9	54.2	55.4	57.8	21 40.48	0.25	3.10	0 21 43.33	16.06
	Neptune	11	0.7	2.7	4.0	13.5	14.4	15.6	16.8	17.9	27.5	28.7	30.7	25 15.68	0.17	3.10	0 25 18.61	. .
	Lacaille 142 . .	12	5.5	7.8	9.1	19.5	20.5	21.8	23.1	24.3	34.8	36.0	38.3	29 21.88	0.23	3.10	0 29 24.75	16.07
	Lacaille 169 .	13	35.9	38.3	39.6	50.6	51.7	53.2	54.5	55.7	6.9	8.3	10.6	33 53.21	0.25	3.10	0 33 56.06	15.90
	β Ceti	14	31.2	33.2	34.6	44.6	45.6	46.9	48.1	49.2	59.4	0.7	2.8	36 46.94	0.21	3.10	0 36 49.83	16.17
	Lacaille 210 . .	15	43.5	45.8	47.2	58.4	59.5	1.0	2.3	3.5	14.7	16.2	18.5	40 0.97	0.26	3.10	0 40 3.81	15.78
	Weisse 742 . . .	16	13.1	15.1	16.4	25.8	26.9	28.2	29.2	30.1	40.2	41.1	43.3	43 28.13	0.16	3.10	0 43 31.07	16.78
	* + 1° 17′ . . .	17	47.0	48.9	50.1	59.7	0.8	2.0	3.0	4.2	13.9	15.0	17.0	47 1.96	0.17	3.10	0 47 4.89	16.63
	Weisse 871 . . .	18	28.7	30.8	32.1	41.6	42.7	43.8	45.0	46.0	55.7	56.8	58.8	50 43.82	0.17	3.10	0 50 46.75	16.64
	Lalande 1737 . .	19	22.8	24.8	26.2	35.7	36.7	38.0	39.1	40.2	50.0	51.2	53.3	53 38.00	0.16	3.10	0 53 40.94	16.92
	Santini O, 58 . .	20	. .	. .	. .	36.2	37.2	38.4	39.6	40.7	50.5	51.6	53.7	55 43.49	5.17	3.10	0 55 41.42	16.92
	Lacaille 301 . .	21	0.4	1.6	2.9	4.3	5.4	. .	37.1	39.7	41.1	42.6	44.3	59 21.94	19.21	3.10	0 59 5.83	15.64
	Weisse 20 . . .	22	59.6	1.8	3.8	12.6	13.6	14.8	15.9	17.1	26.7	27.9	29.9	3 14.88	0.16	3.10	1 3 17.82	16.71
	Polaris	23	. .	. .	. .	16.0	58.5	40.0	33.0	16.0	. .	. .	. .	10 44.70	0.84	3.10	1 10 46.96	162.98
	Ceres	24	50.5	52.7	53.9	3.5	4.5	5.7	6.8	7.9	17.6	18.8	20.7	18 5.69	0.18	3.10	1 18 8.61	. .
	* — 2° 31′ . . .	25	46.4	48.5	49.9	59.3	0.3	1.5	2.6	3.6	13.4	14.5	16.6	27 1.51	0.17	3.10	1 27 4.44	16.53
	ν Piscium	†26	8.0	10.0	11.1	20.7	21.6	22.8	23.8	25.0	34.8	36.0	38.0	34 22.89	0.16	3.10	1 34 25.83	16.91
	Santini 102 . . .	27	18.5	20.5	21.8	31.6	32.5	33.7	35.0	36.0	45.7	46.8	49.0	41 33.74	0.16	3.10	1 41 36.68	17.09
	Weisse 807 . . .	28	30.7	32.8	34.0	43.8	45.0	46.2	47.3	48.4	58.3	59.6	1.6	45 46.15	0.15	3.09	1 45 49.09	17.58
	O. Arg. S. 1256 .	29	7.9	10.0	11.5	22.2	23.3	24.6	25.8	27.1	38.0	39.5	41.6	56 24.68	0.24	3.09	1 56 27.53	14.95
	O. Arg. S. 1344 .	30	32.3	34.5	35.9	46.3	47.3	48.5	49.9	51.2	1.5	2.9	5.1	2 48.67	0.23	3.09	2 2 51.53	15.14
	Weisse 56 . . .	31	. .	. .	. .	13.8	14.9	16.2	17.4	18.3	. .	. .	. .	5 16.12	0.10	3.09	2 5 19.11	17.48
	Weisse 61 . . .	32	57.5	59.0	0.2	1.4	3.8	. .	4.9	7.5	8.8	10.0	11.4	5 34.45	0.39	3.09	2 5 37.15	17.48
	67 Ceti	33	58.3	0.3	1.6	11.2	12.1	13.3	14.5	15.6	25.4	26.5	28.5	10 13.39	0.18	3.09	2 10 16.30	16.24
	Weisse (2) 587 . .	34	3.7	5.1	6.4	7.7	10.3	. .	14.9	17.5	18.8	20.2	21.6	24 42.62	0.40	3.09	2 24 45.31	18.52
	Amphitrite . . .	35	32.1	33.5	35.0	36.3	38.6	. .	43.2	45.8	47.0	48.5	50.0	25 11.00	0.40	3.09	2 25 13.69	. .
	γ Ceti	36	2.0	4.0	5.2	14.6	15.7	16.8	17.9	19.1	28.8	29.8	32.0	36 16.90	0.16	3.09	2 36 19.83	16.86
28	Polaris, S. P. . .	37	. .	. .	. .	29.0	47.5	58.5	11.0	27.0	. .	. .	. .	10 58.60	15.43	2.86	1 10 46.03	162.44
	α Virginis	38	. .	. .	. .	13.5	14.6	16.6	32.0	34.6	35.7	37.0	38.4	18 27.80	26.72	2.86	13 18 3.94	— 14.68
	Mercury (centre) .	39	4.0	6.0	7.4	17.2	18.2	19.4	20.7	21.7	31.5	32.5	34.9	50 19.41	0.26	2.83	13 50 21.98	. .
29	Sun I	40	26.9	28.9	30.2	39.8	40.8	42.0	43.4	44.5	54.4	56.6	57.8	15 42.30	0.30	2.81	14 15 44.81	. .
	Sun II	41	40.2	42.0	43.4	53.2	54.3	55.5	56.8	57.9	7.7	9.0	11.2	17 55.56	0.30	2.81	14 17 58.07	. .
	Venus I . . .	42	45.8	47.9	49.2	59.4	0.4	1.8	3.0	4.3	14.6	16.0	18.2	6 1.87	0.38	2.73	16 6 4.22	+ 0.42
	α Ophiuchi . . .	43	21.3	23.4	24.7	34.3	35.4	36.6	37.9	38.9	48.7	50.0	52.0	28 36.65	— 0.06	2.67	17 28 39.26	— 12.99
	δ Ursæ Minoris . .	44	. .	. .	. .	53.8	11.2	31.5	51.5	9.0	. .	. .	. .	15 31.20	+ 6.40	2.64	18 15 40.24	. .
	α Lyræ	45	59.3	1.9	3.6	15.6	16.9	18.5	20.0	21.4	33.7	35.2	37.8	32 18.54	+ 0.19	2.63	18 32 21.36	9.41
	g^2 Aquarii	46	0.1	2.3	3.6	13.9	14.9	16.1	17.4	18.6	28.8	30.1	32.3	40 16.19	— 0.36	2.44	22 40 18.27	16.82
	λ Aquarii	47	17.4	19.4	20.8	30.4	31.4	32.6	33.8	34.9	44.7	45.8	47.9	45 32.65	0.24	2.44	22 45 34.85	16.36
	Lalande 44823 . .	48	57.9	0.2	1.6	11.6	12.6	14.0	15.2	16.3	26.6	27.8	30.0	48 13.98	0.37	2.44	22 48 16.05	16.80
	* — 7° 50′ . . .	49	17.6	19.7	20.9	30.5	31.5	32.7	33.8	34.9	44.7	45.9	48.0	53 32.75	0.24	2.43	22 53 34.94	16.37
	81 Aquarii	50	5.9	7.9	9.2	18.8	19.7	21.0	22.2	23.3	33.0	34.0	36.2	54 21.02	— 0.24	+ 2.43	22 54 23.21	— 16.37

26. Very unsteady.

October 29, . . . n. = + 0.50 s.

October 29, 2h. Image west 0.50 r. Clamp east.
Image west 0.28. Clamp west.
3h. Reduced the azimuth error.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Oct. 29, 20.7	+ 2.53	— 0.044	— 0.168

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 29	Lalande 45137 . .	1	47.0	48.9	50.2	0.2	1.2	2.5	3.7	4.9	15.0	16.2	18.4	58 2.56	— 0.34	+ 2.43	22 58 4.65	— 16.65
Y.	* — 20° 27′ . .	2	40.9	43.0	44.3	54.5	55.4	56.7	58.0	59.0	9.4	10.6	12.8	6 56.78	0.37	2.42	23 6 58.83	16.68
	γ Piscium	3	53.7	55.6	57.0	6.4	7.3	8.5	9.6	10.7	20.4	21.7	23.8	10 8.61	0.15	2.42	23 10 10.88	15.42
	O. Arg. S. 22766 .	4	1.6	3.6	5.1	15.1	16.3	17.5	18.8	19.9	30.3	31.4	33.8	13 17.58	0.37	2.42	23 13 19.63	16.65
	O. Arg. S. 22800 .	5	. .	. .	. .	. .	. .	. .	36.0	38.6	40.0	41.4	43.0	16 39.80	37.68	2.42	23 16 4.54	16.74
	Lacaille 9508 . .	6	30.8	33.0	34.5	45.0	46.0	47.5	48.9	50.0	0.8	2.2	4.4	24 47.55	0.44	2.41	23 24 49.52	16.68
	O. Arg. S. 22911 .	7	16.3	18.3	19.6	29.7	30.8	32.0	33.2	34.3	44.6	45.7	47.8	27 32.03	0.34	2.41	23 27 34.10	16.51
	O. Arg. S. 22993 .	8	27.4	29.4	30.7	40.8	41.8	43.2	44.4	45.6	55.8	57.1	59.3	34 43.23	0.37	2.40	23 34 45.26	16.50
	Lacaille 9724 . .	9	37.8	40.0	41.4	51.8	52.8	54.2	55.4	56.6	7.0	8.3	11.6	59 54.26	0.41	2.38	23 59 56.23	16.36
	γ Pegasi	10	0.6	2.6	3.8	13.7	14.8	16.0	17.3	18.3	28.2	29.5	31.7	6 16.05	0.05	2.38	0 6 18.38	16.65
	Lacaille 26 . . .	11	25.0	27.3	28.8	40.2	41.3	42.8	44.3	45.5	57.0	58.5	1.0	9 42.88	0.54	2.38	0 9 44.72	16.18
	B. A. C. 49 . . .	12	. .	. .	. .	7.4	8.8	11.3	29.5	32.4	33.8	35.3	36.8	10 24.41	31.72	2.38	0 9 55.07	16.18
	Neptune	13	40.4	42.6	43.8	53.3	54.3	55.5	56.7	57.8	6.4	7.6	9.5	24 55.26	0.16	2.37	0 24 57.47	. .
	O. Arg. S. 369 . .	14	40.1	42.4	43.7	53.8	54.9	56.2	57.5	58.6	8.9	10.1	12.3	35 56.23	0.37	2.36	0 35 58.22	16.05
	O. Arg. S. 442 . .	15	25.2	27.4	28.7	39.2	40.3	41.5	42.8	44.0	54.6	55.8	58.0	42 41.59	0.41	2.35	0 42 43.53	15.92
	Lacaille 224 . .	16	. .	. .	. .	. .	. .	. .	26.7	29.3	30.7	32.1	33.4	43 30.44	37.27	2.35	0 42 55.52	15.91
	O. Arg. S. 506 . .	17	14.0	16.3	17.4	27.5	28.5	29.7	31.0	32.1	42.2	43.5	45.6	48 29.80	0.34	2.35	0 48 31.81	16.05
	O. Arg. S. 544 . .	18	47.4	49.5	50.8	0.8	2.0	3.3	4.5	5.7	16.0	17.3	19.3	52 3.33	0.37	2.35	0 52 5.31	15.94
	O. Arg. S. 635 . .	19	. .	. .	. .	36.5	37.6	38.8	40.2	41.2	. .	. .	. .	0 38.86	— 0.37	2.34	1 0 40.83	15.72
	Polaris	20	. .	. .	. .	57.0	40.5	29.0	19.0	0.5	. .	. .	. .	10 29.20	+ 15.43	2.33	1 10 46.96	162.38
	η Piscium	†21	59.6	1.5	2.7	12.6	13.8	15.0	16.2	17.2	27.3	28.5	30.5	24 14.99	— 0.04	+ 2.32	1 24 17.27	17.45
Nov. 5	ζ Aquilæ	22	59.5	1.5	2.9	12.5	13.6	14.8	16.0	17.1	27.0	28.3	30.3	59 14.86	0.22	— 2.84	18 59 11.80	13.21
	Moon I	23	29.0	31.1	32.4	42.5	43.6	44.9	46.0	47.1	57.5	58.7	1.0	2 44.89	0.15	2.84	20 2 41.90	. .
	α^2 Capricorni . . .	24	21.0	23.2	24.5	34.1	35.2	36.4	37.6	38.7	48.6	49.8	51.8	10 36.45	0.16	2.84	20 10 33.45	16.43
	β Capricorni . . .	25	56.3	58.4	59.8	9.7	10.8	12.0	13.3	14.5	24.5	25.8	28.0	21 12.10	0.15	2.84	20 21 9.11	16.92
	B. A. C. 7113 . .	26	51.5	53.7	55.4	5.4	6.5	7.9	9.2	10.3	20.9	22.2	24.4	30 7.91	0.14	2.84	20 30 4.93	17.33
	B. A. C. 7147 . .	27	6.4	8.8	10.1	20.6	21.8	23.2	24.5	26.7	36.3	37.7	39.9	33 23.27	0.14	2.84	20 33 20.29	17.77
	B. A. C. 7180 . .	28	7.2	9.4	10.8	21.1	22.2	23.5	24.8	26.0	36.7	38.0	40.2	38 23.63	0.14	2.84	20 38 20.65	17.52
	B. A. C. 7243 . .	29	51.5	53.8	55.1	5.4	6.6	7.9	9.2	10.4	21.1	22.3	24.6	46 7.99	0.14	2.84	20 46 5.01	17.56
	O. Arg. S. 21053 .	30	. .	. .	. .	20.2	21.4	23.6	39.7	42.2	43.5	44.9	46.3	55 35.22	27.79	2.84	20 55 4.59	17.06
	O. Arg. S. 21148 .	31	47.4	49.5	50.8	1.3	2.4	3.7	4.9	5.9	16.7	17.7	20.1	1 3.67	0.14	2.84	21 1 0.69	17.37
	ζ Cygni	32	57.7	0.0	1.5	12.4	13.5	14.9	16.2	17.5	28.6	30.0	32.2	7 14.95	0.28	2.84	21 7 11.83	13.06
	O. Arg. S. 21283 .	33	38.3	40.6	42.0	52.8	53.9	55.2	56.6	57.8	8.5	9.8	12.3	10 55.25	0.14	2.84	21 10 52.27	17.67
	* — 23° 17′ . .	34	18.7	20.6	22.2	32.7	33.7	34.9	36.1	37.3	47.9	49.2	51.5	14 34.98	0.14	2.84	21 14 32.00	17.31
	B. A. C. 7413 . .	35	2.7	4.8	6.0	16.5	17.5	18.9	20.0	21.3	31.8	33.0	35.3	15 18.89	0.14	2.84	21 15 15.91	17.30
	Lalande 41550 . .	36	. .	. .	. .	. .	. .	. .	13.0	15.8	17.1	18.6	20.0	17 16.90	36.94	2.84	21 16 37.12	17.35
	* — 23° 53′ . .	37	. .	. .	. .	48.0	49.4	51.5	8.0	10.9	12.2	13.5	14.5	18 3.50	28.59	2.84	21 17 32.07	17.35
	β Cephei	38	16.2	21.7	25.3	53.2	56.0	59.6	2.8	5.6	34.0	37.5	43.5	26 59.58	0.88	2.84	21 26 55.86	5.43
	* — 40° 12′ . .	39	22.6	25.0	26.8	39.2	40.4	41.9	43.5	44.9	57.6	59.3	1.7	30 42.08	0.13	2.84	21 30 39.11	18.81
	B A. C. 7550 . .	40	27.3	29.4	30.7	40.8	41.9	43.1	44.4	45.5	55.8	57.0	59.2	35 43.10	0.14	2.84	21 35 40.21	16.99
	θ Piscis Australis .	41	33.9	36.0	37.6	48.8	49.8	51.3	52.7	53.9	5.1	6.6	9.0	39 51.34	0.13	2.84	21 39 48.37	17.85
	μ Capricorni . . .	42	43.8	45.8	47.0	56.8	57.9	59.1	0.4	1.6	11.4	12.6	14.7	45 59.19	0.15	2.84	21 45 56.20	16.68
	δ Sculptoris . . .	43	39.9	42.3	43.6	54.5	55.6	57.0	58.4	59.5	10.5	11.9	14.1	41 57.03	0.13	2.84	23 41 54.06	16.50
	B. A. C. 8304 . .	44	9.0	11.2	12.7	23.0	24.0	25.5	26.8	27.9	38.6	39.8	42.0	46 25.50	0.14	2.84	23 46 22.52	16.38
	* — 20° 47′ . .	45	34.0	36.0	37.4	47.6	48.7	50.0	51.2	52.4	2.7	4.0	6.1	51 50.01	0.14	2.84	23 51 47.03	16.32
	O. Arg. S. 23166 .	46	15.0	17.3	18.6	28.9	30.0	31.3	32.4	33.6	43.8	45.2	47.3	52 31.22	0.14	2.84	23 52 28.24	16.32
	O. Arg. S. 23206 .	47	49.2	51.4	52.8	2.8	3.9	5.2	6.4	7.6	18.0	19.2	21.3	56 5.25	0.14	2.84	23 56 2.27	16.30
	Lacaille 9724 . .	48	42.8	45.0	46.5	56.8	57.9	59.3	0.6	1.6	12.2	13.5	15.7	59 59.26	0.14	2.84	23 59 56.28	16.26
	* — 23° 52′ . .	49	. .	. .	. .	34.4	35.8	38.0	54.9	57.4	58.8	0.2	1.5	0 50.12	28.59	2.84	0 0 18.69	16.26
	* — 33° 33′ . .	50	14.3	16.7	18.2	29.7	30.7	31.9	33.4	34.7	46.3	47.6	50.2	4 32.15	— 0.13	— 2.84	0 4 29.18	— 16.19

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 5, 22.2	— 2.83	— 0.000	— 0.180

21. Through clouds.

Nov. 5, n. $= -0.13$ s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 5	O. Arg. S. 65	1	40.3	42.5	43.9	54.3	55.4	56.7	57.9	59.0	9.7	10.9	13.2	6 56.71	— 0.14	— 2.84	0 6 53.73	— 16.20
Y.	Lacaille 26	2	4.5	6.0	7.6	9.1	12.0	. .	23.9	26.8	28.1	30.0	31.6	9 47.96	0.41	2.84	0 9 44.71	16.11
	B. A. C. 49	3	14.9	16.5	17.9	19.4	22.1	. .	34.1	37.0	38.6	40.2	41.9	10 58.26	0.41	2.84	0 10 55.01	16.09
	* — 33° 31′	4	15.4	17.8	19.3	30.6	31.8	33.3	34.6	36.0	47.7	48.8	51.5	13 33.35	0.13	2.84	0 13 30.38	16.05
	44 Piscium	5	18.2	20.1	21.4	30.7	31.8	33.0	34.2	35.3	44.8	46.0	48.2	18 33.06	0.18	2.84	0 18 30.04	16.48
	Lacaille 100	6	52.5	54.6	55.9	6.3	7.4	8.8	10.0	11.5	22.1	23.4	25.5	22 8.91	0.14	2.84	0 22 5.93	16.05
	Neptune	7	12.3	14.0	15.4	24.9	25.9	27.0	28.3	29.3	38.8	40.0	42.2	24 27.10	0.18	2.84	0 24 24.08	. .
	O. Arg. S. 284	8	43.3	45.5	46.9	57.8	58.9	0.3	1.6	2.6	13.5	14.9	17.0	29 0.21	0.14	2.84	0 28 57.23	15.94
	Lacaille 157	9	54.0	56.2	57.6	8.0	9.3	10.5	11.8	13.0	23.7	25.0	27.2	32 10.57	0.14	2.84	0 32 7.59	15.94
	O. Arg. S. 506	10	19.0	21.1	22.4	32.3	33.5	34.7	35.9	37.0	47.3	48.5	50.6	48 34.75	0.15	2.84	0 48 31.76	16.02
	O. Arg. S. 544	11	52.5	54.6	56.0	6.0	7.1	8.3	9.5	10.6	21.0	22.3	24.5	52 8.40	0.14	2.84	0 52 5.42	15.91
	O. Arg. S. 592	12	26.0	28.0	29.4	39.9	41.0	42.2	43.5	44.7	55.2	56.3	58.7	56 42.26	0.14	2.84	0 56 39.28	15.76
	B. A. C. 319	13	52.2	54.7	56.3	8.0	9.2	10.7	12.2	13.4	25.5	27.1	29.5	0 10.80	0.13	2.84	1 0 7.83	15.25
	Polaris	14	. .	. .	. .	25.0	7.0	56.5	44.0	26.5	. .	. .	. .	10 55.80	10.68	2.84	1 10 42.28	. .
	O. Arg. S. 857	15	27.5	29.7	31.1	42.0	43.1	44.4	45.7	46.7	57.8	59.1	1.5	21 44.42	0.14	2.84	1 21 41.44	15.34
	η Piscium	16	. .	. .	. .	18.0	19.0	20.3	21.6	22.6	32.6	33.6	35.8	24 25.44	5.34	2.84	1 24 17.26	17.45
	Lacaille 459	17	24.9	27.6	29.0	40.9	42.0	43.4	44.9	46.1	58.2	59.7	2.2	28 43.54	0.13	2.84	1 28 40.57	14.79
	ν Piscium	18	13.7	16.2	17.1	26.7	27.7	28.9	30.0	31.1	40.7	42.0	43.8	34 28.90	0.19	2.84	1 34 25.87	16.94
6	μ Aquarii	19	10.2	12.2	13.5	23.1	24.1	25.3	26.5	27.6	37.4	38.6	40.5	45 25.36	0.16	3.09	20 45 22.11	16.16
	20 Capricorni	20	42.8	45.0	46.3	56.3	57.4	58.7	59.9	1.0	11.4	12.5	14.7	51 58.73	0.15	3.09	20 51 55.49	17.03
	O. Arg. S. 21053	21	51.9	54.0	55.3	5.3	6.4	7.6	8.9	10.0	20.3	21.5	23.5	55 7.70	0.15	3.09	20 55 4.46	17.04
	Moon I	22	. .	. .	. .	. .	. .	. .	37.5	40.0	41.5	42.7	44.0	0 41.10	35.51	3.09	21 0 2.50	. .
	ν Aquarii	23	2.2	4.3	5.4	15.1	16.2	17.5	18.7	19.7	29.5	30.8	32.8	2 17.47	0.16	3.09	21 2 14.22	16.38
	ζ Cygni	24	58.0	0.2	1.7	12.5	13.7	15.1	16.4	17.7	28.7	30.0	32.4	7 15.13	0.28	3.09	21 7 11.76	13.04
	O. Arg. S. 21283	25	38.8	40.9	42.3	53.0	54.0	55.5	56.7	57.9	8.8	10.0	12.4	10 55.48	0.14	3.09	21 10 52.25	17.65
	O. Arg. S. 21355	26	15.5	17.7	19.0	29.5	30.6	32.0	33.2	34.4	45.0	46.3	48.4	16 31.96	0.14	3.09	21 16 28.73	17.36
	O. Arg. S. 21374	27	48.8	51.1	52.5	2.8	3.9	5.3	6.6	7.8	18.3	19.6	21.9	18 5.33	0.14	3.09	21 18 2.10	17.37
	β Aquarii	28	15.4	17.4	18.7	28.2	29.2	30.4	31.6	32.7	42.4	43.5	45.6	24 30.46	0.17	3.09	21 24 27.20	16.00
	β Cephei	29	16.0	21.4	25.5	53.2	55.8	59.4	3.0	6.0	34.3	37.9	43.6	26 59.65	0.88	3.09	21 26 55.68	. .
	ξ Aquarii	30	22.1	24.1	25.4	34.9	35.9	37.1	38.3	39.4	49.2	50.4	52.3	30 37.19	0.16	3.09	21 30 33.94	16.20
10	Sun I	31	24.3	26.3	27.6	. .	. .	. .	. .	. .	52.3	53.5	55.7	3 39.95	0.24	16.56	15 3 23.15	. .
	Sun II	32	40.4	42.6	43.7	53.7	54.7	56.0	57.3	58.4	8.5	9.6	12.8	5 56.15	0.20	16.56	15 5 39.39	. .
	α Herculis	33	29.8	31.9	33.2	42.9	44.0	45.3	46.5	47.6	57.5	58.7	0.9	8 45.30	0.21	16.67	17 8 28.42	— 12.57
	Venus I	34	29.5	31.8	33.0	43.5	44.7	45.9	47.2	48.4	59.0	0.2	2.5	9 45.97	0.22	16.67	17 9 29.08	+ 0.45
	α Ophiuchi	35	40.5	42.6	43.9	53.6	54.8	55.9	57.1	58.3	8.0	9.3	11.4	28 55.95	0.21	16.69	17 28 39.05	— 12.88
	δ Ursæ Minoris	36	43.5	17.0	39.0	18.3	36.0	56.0	16.0	34.5	17.0	36.5	11.0	15 56.82	3.38	16.74	. . . .	+ 113.52
	α Lyræ	37	19.0	21.5	23.1	35.2	36.5	38.1	39.6	40.8	53.2	54.7	57.3	32 38.09	0.26	16.75	18 32 21.08	— 9.16
	β Lyræ	38	4.0	6.4	8.0	19.3	20.5	21.9	23.4	24.6	36.2	37.6	40.0	45 21.99	— 0.24	16.77	18 45 4.98	10.25
	ω Piscium	39	26.0	28.1	29.2	38.7	39.7	40.9	42.1	43.3	. .	. .	. .	52 36.00	+ 4.80	17.06	23 52 23.74	16.39
	Lacaille 9724	40	57.0	59.3	0.5	10.8	12.0	13.3	14.6	15.8	26.4	27.5	29.9	0 13.37	— 0.18	17.06	23 59 56.13	16.21
	Weisse 1267	41	0.4	2.5	3.7	13.2	14.1	15.3	16.4	17.5	27.3	28.4	39.5	2 15.39	0.20	17.06	0 1 58.13	16.35
	O. Arg. S. 65	42	54.5	56.6	58.0	8.5	9.6	10.9	12.1	13.3	23.7	25.0	27.3	7 10.86	0.18	17.07	0 6 53.61	16.15
	Lacaille 26	43	18.8	20.4	21.8	23.3	26.2	. .	38.2	40.9	42.5	43.2	45.8	10 2.11	0.47	17.07	0 9 44.57	16.05
	B. A. C. 49	44	54.3	56.7	58.3	9.6	10.8	12.3	13.7	14.9	26.4	27.8	30.3	10 12.28	0.19	17.07	0 9 55.02	16.05
	d Piscium	45	42.4	44.5	45.8	55.3	56.4	57.6	58.8	59.8	9.5	10.6	12.8	13 57.59	0.21	17.08	0 13 40.30	16.53
	44 Piscium	46	32.3	34.2	35.5	45.0	46.1	47.3	48.4	49.5	59.1	0.3	2.4	18 47.28	0.20	17.08	0 18 30.00	16.45
	Neptune	47	4.7	6.7	8.0	17.4	18.3	19.6	20.8	21.7	31.5	32.7	34.8	24 19.65	0.20	17.09	0 24 2.36	. .
	O. Arg. S. 284	48	57.3	59.5	0.9	11.7	12.8	14.2	15.4	16.6	27.5	28.9	31.2	29 14.18	0.18	17.09	0 28 56.91	15.89
	β Ceti	49	51.1	53.2	54.6	4.6	5.8	7.0	8.2	9.3	19.5	20.7	22.9	37 6.99	0.19	17.10	0 37 49.70	16.09
	O. Arg. S. 442	50	44.5	46.7	47.9	58.2	59.4	0.7	1.9	3.1	13.6	14.8	17.3	43 0.74	— 0.18	—17.11	0 42 43.45	— 15.85

November 6 . . . . . n. = — 0.13.
10, 15h. to 19h. 0.00.
23h. to 14h. — 0.08.

November 10, 2h. 30m. Image west 0.48. Clamp east.
Image west 0.17. Clamp west.

November 8. Adjusted a system of levers to the pendulum of the clock to close the galvanic circuit, instead of the globule of mercury.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Nov. 6, 21.2	— 3.09	— 0.011	— 0.180
10, 21.3	16.91	0.057	— 0.200
13.3	— 18.33	— 0.089	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 10	Lacaille 224	1	. .	. .	. .	25.8	27.0	29.2	45.9	48.6	49.9	51.2	52.7	43 41.29	— 28.68	—17.11	0 42 55.50	— 15.84
Y.	Moon I	2	40.9	42.9	44.2	54.1	55.1	56.3	57.4	58.6	8.6	9.8	12.0	46 56.35	0.21	17.11	0 46 39.03	. .
	O. Arg. S. 544	3	6.3	8.7	9.9	20.1	21.1	22.4	23.7	24.7	35.2	36.4	38.6	52 22.46	0.18	17.12	0 52 5.16	15.88
	ε Piscium	4	59.9	1.8	3.1	12.7	13.7	14.9	16.0	17.1	26.8	27.8	30.0	56 14.89	0.21	17.12	0 55 57.56	16.83
	O. Arg. S. 623	5	27.4	29.7	31.2	41.7	43.0	44.4	45.7	46.8	57.7	59.0	1.3	59 44.35	0.18	17.12	0 59 27.05	15.57
	Ceres	6	46.8	48.8	49.9	59.4	0.5	1.7	2.9	3.9	13.7	14.8	16.8	7 1.75	0.19	17.13	1 6 44.43	. .
	Polaris	7	. .	. .	. .	40.0	20.0	6.5	58.0	39.5	. .	. .	. .	11 8.80	9.46	17.13	1 10 42.21	159.26
	Lacaille 381	8	10.7	12.9	14.3	24.7	25.8	27.2	28.5	29.6	40.3	41.5	43.8	17 27.21	0.18	17.14	1 17 9.89	15.50
	O. Arg. S. 857	9	41.7	44.1	45.6	56.2	57.2	58.6	59.9	1.2	12.0	13.4	15.7	21 58.69	0.18	17.14	1 21 41.37	15.32
	η Piscium	10	. .	. .	. .	32.4	33.4	34.7	35.8	36.9	46.9	48.2	50.3	24 39.82	5.35	17.14	1 24 17.33	17.46
	Weisse 607	11	23.7	25.6	6.8	36.4	37.5	38.6	39.8	40.8	50.5	51.6	53.7	34 38.64	0.21	17.16	1 34 21.27	16.90
	Weisse 628	12	15.5	17.4	18.7	28.3	29.3	30.4	31.6	32.6	42.3	43.4	45.5	35 30.36	0.21	17.16	1 35 12.99	16.90
	Weisse 775	13	. .	. .	. .	. .	. .	. .	50.3	52.7	53.9	55.4	56.7	44 53.80	— 34.93	17.16	1 44 1.71	17.61
	Polaris, S. P.	14	. .	. .	. .	23.5	38.0	49.0	3.0	20.5	. .	. .	. .	10 50.80	+ 9.46	18.32	1 10 41.94	159.13
	α Virginis	15	7.4	9.5	10.8	20.5	21.6	22.7	23.9	25.0	34.7	35.8	38.0	18 22.72	— 0.19	18.33	. . . .	14.89
12	ω Piscium	16	32.6	34.6	35.9	45.4	46.4	47.7	48.8	49.8	59.5	0.6	2.8	52 47.65	0.28	23.65	23 52 23.72	. .
	Lacaille 9722	17	. .	. .	. .	42.4	43.6	45.0	46.4	47.8	59.2	0.6	3.2	59 51.02	6.14	23.66	23 59 21.22	16.17
	B. A. C. 12	18	10.1	12.1	13.4	22.9	24.0	25.1	26.2	27.3	36.9	38.3	40.2	3 28.14	0.25	23.66	0 3 1.23	16.31
	Lacaille 17	19	10.7	13.2	14.4	25.8	27.0	28.5	29.9	31.1	42.7	44.0	46.7	8 28.55	0.19	23.67	0 8 4.69	16.05
	Lacaille 52	20	36.1	38.7	40.3	52.0	53.2	54.7	56.2	57.6	9.6	10.9	13.5	14 54.80	0.19	23.68	0 14 30.93	15.92
	Lacaille 81	21	46.3	49.0	50.6	3.0	4.3	5.7	7.2	8.7	21.3	22.8	25.5	19 5.85	0.19	23.69	0 18 42.07	15.81
	Neptune	22	3.3	5.3	6.5	16.0	17.0	18.2	19.4	20.5	30.1	31.2	33.3	24 18.25	0.26	23.70	0 23 54.29	. .
	B. A. C. 135	23	7.6	9.9	11.3	22.3	23.5	24.8	26.3	27.5	38.7	40.1	42.4	27 24.95	0.20	23.70	0 27 1.05	15.84
	* — 18° 21′	24	. .	. .	. .	35.6	36.6	37.9	39.1	40.2	50.4	51.6	53.9	33 43.16	5.43	23.71	0 33 14.02	16.04
	* — 18° 17′	25	. .	. .	. .	3.3	4.4	6.5	22.6	25.2	26.5	27.8	29.2	34 18.19	27.61	23.71	0 33 26.87	16.04
	O. Arg. S. 369	26	6.2	8.3	9.6	19.7	20.7	22.0	23.3	24.5	34.6	35.9	38.3	36 22.10	0.21	23.72	0 35 38.17	15.96
	B. A. C. 203	27	. .	. .	. .	. .	. .	. .	1.0	3.7	5.0	6.4	7.9	39 4.80	36.71	23.72	0 38 4.37	15.90
	O. Arg. S. 544	28	. .	. .	. .	26.9	28.1	29.3	30.6	31.6	41.8	43.1	45.2	52 34.58	5.50	23.75	0 52 5.33	15.87
	O. Arg. S. 592	29	46.8	49.0	50.4	0.8	2.0	3.2	4.5	5.5	16.2	17.4	19.6	57 3.22	0.21	23.75	0 56 39.26	15.72
	B. A. C. 319	30	13.1	15.6	17.0	28.9	30.1	31.6	33.1	34.4	46.3	47.8	50.3	0 31.65	0.19	23.76	1 0 7.70	15.19
	Polaris	31	. .	. .	. .	51.0	32.0	20.5	10.0	52.0	. .	. .	. .	11 21.10	15.97	23.78	. . . .	. .
	θ Ceti	32	26.8	28.7	29.9	39.6	40.6	41.9	43.0	44.1	53.7	55.0	57.1	17 41.85	0.24	23.79	1 17 17.82	16.20
	O. Arg. S. 861	33	31.6	34.8	36.2	46.7	47.8	49.1	50.4	51.6	22.4	23.6	25.8	22 49.09	0.20	23.80	1 22 25.09	15.42
	Lacaille 435	34	42.9	45.4	46.7	57.4	58.6	59.9	1.3	2.5	13.5	14.8	17.0	26 0.00	0.20	23.80	1 25 36.00	15.26
	Lacaille 459	35	46.1	48.6	50.0	1.8	3.0	4.5	5.9	7.3	19.2	20.6	23.1	29 4.55	0.19	23.81	1 28 40.55	14.75
	ν Piscium	36	35.1	37.0	38.2	47.7	48.8	50.0	51.1	52.3	1.9	3.0	5.1	34 50.02	0.27	23.82	1 34 25.93	16.94
	O. Arg. S. 1049	37	. .	. .	. .	21.1	22.2	23.6	24.9	26.0	. .	. .	. .	39 23.56	0.15	23.82	1 38 59.59	15.17
	O. Arg. S. 1053	38	. .	. .	. .	40.3	41.4	42.7	44.1	45.3	. .	. .	. .	39 42.76	0.15	23.83	1 39 18.78	15.17
	O. Arg. S. 1057	39	. .	. .	. .	51.7	52.8	54.2	55.5	56.6	. .	. .	. .	39 54.16	0.15	23.83	1 39 30.18	15.17
	O. Arg. S. 1058	40	. .	. .	. .	9.5	11.9	13.2	30.3	32.9	34.3	35.6	37.1	40 25.60	29.42	23.83	1 39 32.35	15.17
	O. Arg. S. 1116	41	10.2	12.5	13.9	24.1	25.3	26.5	27.8	28.9	39.5	40.8	42.9	44 26.58	0.21	23.83	1 44 2.54	15.34
	O. Arg. S. 1151	42	. .	. .	. .	. .	. .	. .	34.1	36.8	37.9	39.4	40.8	46 37.80	36.98	23.84	1 45 36.98	15.31
	Weisse 188	43	28.4	30.5	31.7	41.5	42.5	43.7	44.9	46.1	55.9	57.0	59.9	13 43.83	0.31	23.88	2 13 19.64	17.80
	Lacaille 726	44	25.0	27.2	28.5	39.3	40.4	41.7	43.0	44.3	54.9	56.2	58.4	18 41.72	0.20	23.89	2 18 17.63	14.82
	ξ^2 Ceti	45	9.7	11.8	13.0	22.6	23.6	24.7	25.9	26.9	36.6	37.8	40.0	21 24.78	0.29	23.90	2 21 0.59	17.41
	Weisse 363	46	44.5	46.4	47.8	57.4	58.3	59.3	0.5	1.7	11.5	12.6	14.7	22 59.52	0.29	23.90	2 22 35.33	17.41
	Lacaille 787	47	36.0	38.1	39.3	49.5	50.7	52.0	53.4	54.5	4.9	6.1	8.3	28 52.07	0.21	23.91	2 28 27.95	15.06
	* — 31° 11′	48	7.1	9.4	10.9	22.0	23.2	24.6	25.9	27.2	38.5	39.8	42.2	33 24.62	0.19	23.92	2 33 0.51	14.26
	O. Arg. S. 1735	49	24.3	26.5	28.0	39.2	40.2	41.6	43.0	44.3	55.6	57.0	59.4	34 41.74	0.19	23.92	2 34 17.63	14.25
	π Arietis	50	56.1	58.2	59.5	9.4	10.4	11.7	13.0	14.0	24.2	25.3	27.5	42 11.75	0.33	23.93	2 41 47.49	— 18.33
	Moon I	51	8.2	10.2	11.5	21.6	22.7	23.9	25.3	26.4	36.6	37.8	40.1	45 24.03	— 0.32	—23.94	2 44 59.77	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 12, 2.0	— 23.86	— 0.101	— 0.260

November 12 . . . . . s. n. = — 0.18.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 12	ε Arietis	1	39.8	42.1	43.4	53.5	54.8	56.0	57.1	58.3	8.6	10.0	12.1	51 55.97	— 0.35	—23.95	2 51 31.67	— 18.82
Y.	Weisse 976	2	17.0	18.9	20.3	30.1	31.1	32.3	33.5	34.5	44.6	45.7	47.8	56 32.35	0.30	23.95	2 56 8.10	18.14
	* + 13° 44′	3	8.8	10.9	12.2	21.9	23.0	24.4	25.5	26.5	36.4	37.6	39.7	58 24.26	0.30	23.96	2 58 0.00	18.13
	δ Arietis	4	5.1	7.0	8.3	18.5	19.6	20.7	22.0	23.3	33.4	34.7	36.9	4 20.86	0.34	23.97	3 3 56.55	18.79
	12 Eridani	5	. .	. .	. .	59.7	1.0	3.4	20.8	23.6	25.0	26.5	27.8	7 15.98	30.10	23.97	3 6 21.91	14.08
	* — 29° 29′	6	51.7	54.0	55.4	6.3	7.5	8.9	10.3	11.4	21.6	23.9	26.3	8 8.85	0.20	23.97	3 7 44.68	14.06
	Lacaille 1041	7	31.6	33.8	34.9	45.5	46.5	47.8	49.2	50.4	0.9	2.1	4.5	11 47.93	0.20	23.98	3 11 23.75	14.60
	B. A. C. 1049	8	39.6	41.7	43.1	53.7	54.8	56.0	57.2	58.4	8.9	10.1	12.4	15 55.99	0.20	23.99	3 15 31.80	14.55
	O. Arg. S. 2237	9	. .	. .	. .	44.9	46.2	48.3	4.0	6.8	8.0	9.2	10.6	17 59.75	27.56	23.99	3 17 8.20	15.16
	B. A. C. 1073	10	49.5	51.7	53.1	3.9	5.0	6.3	7.7	8.9	19.7	21.1	23.6	21 6.41	0.20	24.00	3 20 42.21	14.13
	Lacaille 1113	11	50.9	53.2	54.5	5.0	6.0	7.2	8.6	9.8	20.4	21.8	23.9	24 7.39	0.21	24.00	3 23 43.18	14.52
	ε Eridani	12	45.0	47.1	48.4	57.8	58.8	0.0	1.1	3.3	12.2	13.2	15.4	27 0.21	0.23	24.00	3 26 35.98	15.90
15	Weisse (2) 845	13	. .	. .	. .	45.2	46.4	47.7	48.9	50.1	. .	. .	. .	38 47.66	0.36	33.05	3 38 14.25	19.56
	10 Pleiadum	14	. .	. .	. .	58.6	59.7	1.0	2.3	3.5	. .	. .	. .	39 1.02	0.36	33.05	3 38 27.61	19.57
	η Tauri	15	46.8	49.0	50.3	0.6	1.8	3.1	4.4	5.5	16.0	17.4	19.8	40 3.15	0.41	33.05	3 39 29.69	19.57
	27 Tauri	16	4.5	5.8	7.1	8.5	11.0	. .	16.6	19.2	20.5	22.0	23.5	41 43.87	0.67	33.05	3 41 10.15	19.58
	28 Tauri	17	28.4	30.6	31.9	42.4	43.5	44.7	46.0	47.1	57.7	59.0	1.0	41 44.75	0.41	33.05	3 41 11.29	19.59
	B. A. C. 1195	18	9.8	12.1	13.5	23.8	24.9	26.2	27.4	28.6	39.2	40.4	42.6	43 26.23	0.41	33.05	3 42 52.77	19.58
	Lacaille 1291	19	1.8	4.1	5.5	16.5	17.7	19.2	20.5	21.8	32.8	34.1	36.6	51 19.15	0.32	33.07	3 50 45.76	13.63
	O. Arg. S. 2710	20	15.5	17.6	19.0	30.1	31.2	32.5	33.8	35.0	46.2	47.5	49.7	54 32.55	0.32	33.07	3 53 59.16	13.72
	O. Arg. S. 2761	21	26.9	29.1	30.5	41.1	42.4	43.7	45.2	46.4	57.2	58.5	0.8	57 43.80	0.32	33.08	3 57 10.40	13.86
	Lacaille 1346	22	34.3	36.6	38.2	49.0	50.3	51.7	53.0	54.3	5.7	7.0	9.4	0 51.77	0.32	33.08	4 0 18.37	13.38
	37 Eridani	23	7.2	9.3	10.5	20.1	21.0	22.2	23.5	24.5	34.4	35.5	37.6	4 22.35	0.32	33.09	4 3 48.94	16.11
	o^1 Eridani	24	36.5	38.6	39.7	49.2	50.3	51.5	52.7	53.7	3.4	4.5	6.7	5 51.53	0.32	33.09	4 5 18.12	16.12
	Lacaille 1389	25	2.4	4.8	6.3	17.6	18.7	20.0	21.4	22.7	34.3	35.5	38.0	9 20.15	0.32	33.10	4 8 46.73	13.18
	Weisse (2) 350	26	29.4	31.6	33.0	43.8	45.0	46.4	47.8	49.0	0.0	1.4	2.8	17 46.38	0.44	33.11	4 17 12.83	20.60
	O. Arg. S. 3061	27	. .	. .	. .	14.2	15.6	17.8	35.0	37.9	39.2	40.6	42.2	20 30.31	29.92	33.12	4 19 27.27	13.62
	Lacaille 1485	28	52.5	54.8	56.3	7.2	8.2	9.6	10.9	12.0	23.2	24.5	26.9	25 9.65	0.32	33.13	4 24 36.20	13.49
	O. Arg. S. 3154	29	15.7	17.8	19.6	30.4	31.4	32.7	34.1	35.3	46.4	47.8	50.0	26 32.84	0.32	33.13	4 25 59.39	13.49
	v^7 Eridani	30	35.7	38.1	39.5	50.5	51.7	53.1	54.5	55.8	7.0	8.4	10.8	30 53.19	0.32	33.14	4 30 19.73	13.24
	μ Eridani	31	5.1	7.1	8.5	17.9	19.0	20.1	21.2	22.4	32.0	33.1	35.2	39 20.15	0.33	33.16	4 38 46.66	16.46
	O. Arg. S. 3389	32	. .	. .	. .	29.6	31.0	33.2	50.6	53.6	55.0	56.4	57.8	42 45.87	30.25	33.16	4 41 42.46	13.32
	* + 29° 57′	33	33.0	34.4	35.9	37.1	40.0	. .	49.5	52.0	53.5	55.2	56.8	49 14.74	0.71	33.17	4 48 40.86	20.85
	Weisse (2) 1079	34	46.0	47.6	48.8	50.2	53.0	. .	2.3	5.1	6.4	7.9	9.5	49 27.68	0.71	33.17	4 48 53.80	20.84
	Weisse (2) 1089	35	. .	. .	. .	15.4	16.9	19.3	36.6	39.5	40.9	42.4	43.9	50 31.86	30.44	33.17	4 49 28.25	20.83
	Mars I	36	34.0	35.4	36.8	38.1	40.6	. .	46.1	48.8	50.1	51.6	52.9	54 13.44	0.67	33.18	4 53 39.59	. .
	Mars II	37	58.2	0.3	1.9	12.2	13.2	14.4	15.8	17.0	27.6	28.8	31.0	54 14.58	0.41	33.18	4 53 40.99	. .
	Lacaille 1704	38	36.0	38.2	39.8	50.6	. .	52.6	53.8	55.0	5.5	6.9	9.0	58 52.74	0.45	33.19	4 58 19.10	13.91
	15 Orionis	39	18.1	20.2	21.5	31.4	32.3	33.5	34.8	35.9	45.9	47.1	49.1	2 33.62	0.37	33.19	5 2 0.06	18.67
	O. Arg. S. 3790	40	7.9	10.2	11.6	22.4	23.5	24.8	26.0	27.2	38.3	39.4	41.8	9 24.83	0.31	33.21	5 8 51.31	13.47
	O. Arg. S. 3830	41	10.3	12.6	14.0	24.6	25.7	27.1	28.4	29.6	40.3	41.8	44.2	12 27.15	0.31	33.21	5 11 53.63	13.47
	* — 20° 11′	42	5.6	7.8	9.2	19.2	20.3	21.5	22.9	23.9	34.3	35.5	37.7	17 21.63	0.31	33.22	5 16 48.10	14.39
	115 Tauri	43	37.1	39.3	40.5	50.4	51.5	52.8	54.0	55.1	5.3	6.5	8.5	19 52.82	0.38	33.22	5 19 19.22	19.03
	* — 28° 31′	44	12.6	14.9	16.4	27.0	28.3	29.6	31.0	32.2	43.2	44.5	46.7	25 29.67	0.32	33.23	5 24 56.12	13.26
	* — 28° 26′	45	. .	. .	. .	. .	. .	. .	53.4	56.0	57.5	58.9	0.5	26 57.26	38.59	33.23	5 25 45.44	13.27
	ζ Tauri	46	53.8	56.0	57.4	7.5	8.5	9.8	10.2	12.4	22.5	23.9	26.1	30 9.83	0.40	33.24	5 29 36.19	19.46
	* — 29° 0′	47	53.0	55.2	56.7	7.5	8.7	10.2	11.5	12.7	23.7	25.0	27.4	33 10.15	0.32	33.25	5 32 36.58	13.16
	* — 26° 25′	48	10.8	13.0	14.4	. .	. .	. .	. .	. .	40.5	42.0	44.4	36 27.52	0.35	33.25	5 35 53.92	13.51
	* — 26° 25′	49	. .	. .	. .	25.7	27.0	28.0	29.6	30.8	. .	. .	. .	36 28.28	0.26	33.25	5 35 54.77	13.51
	* — 30° 39′	50	2.8	5.1	6.6	27.7	28.8	30.2	31.5	32.8	44.0	45.4	47.8	39 30.25	0.32	33.26	5 38 56.67	— 12.90
	Moon II	51	9.2	11.4	12.8	23.0	24.1	25.5	26.7	27.9	38.5	39.6	41.8	48 25.50	— 0.39	—33.28	5 47 51.83	. .

November 15, . . . n. = — 0.11.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Nov. 15,	5.0	— 33.19	— 0.107	— 0.330

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 15	Lacaille 2085	1	..	..	..	51.0	52.4	54.7	13.1	16.1	17.6	19.2	20.7	54 8.10	— 31.89	—33.29	5 53 2.92	— 12.27
Y.	Lacaille 2090	2	..	..	..	37.5	38.8	40.2	41.6	43.0	54.7	56.0	58.5	54 46.29	6.33	33.29	5 54 6.67	12.29
	ν Orionis	3	11.4	13.5	14.8	24.6	25.6	26.9	28.1	29.2	39.1	40.3	42.5	0 26.91	0.37	33.30	5 59 53.24	18.51
	η Geminorum	4	2.6	4.8	6.2	16.4	17.6	18.8	20.0	21.0	31.6	32.8	35.2	7 18.82	0.36	33.31	6 6 45.15	19.55
	δ Ursæ Minoris, S. P.	5	13.0	41.0	20.0	39.0	21.5	1.7	41.5	23.5	41.0	20.7	46.0	16 0.81	7.44	33.32	.. ..	..
	γ Geminorum	6	14.1	16.3	17.6	27.5	28.5	29.8	31.0	32.1	42.1	43.3	45.5	30 29.80	0.38	33.35	6 29 56.07	18.61
	51 Cephei	7	..	..	..	28.0	48.0	14.0	38.0	0.0	..	..	..	37 13.60	7.97	—33.36	6 36 32.27	173.05
	Polaris, S. P.	8	..	..	..	..	..	..	24.0	29.0	39.5	51.5	16.0	33 32.00	—22 33.28	..	.. ..	157.74
19	α Aquilæ	9	..	..	..	51.1	52.0	53.2	54.4	55.4	..	..	..	43 53.22	+ 0.05	..	.. ..	..
22	δ Leonis	10	29.2	30.3	32.7	57.9	59.0	1.3	17.6	20.0	21.3	22.7	24.2	7 1.47	— 16.50	+10.21	11 6 55.18	15.79
	δ Crateris	11	..	..	..	23.1	24.0	25.4	26.7	27.7	37.7	38.7	40.6	12 30.49	5.11	10.20	11 12 35.58	15.04
	Moon II	12	45.9	47.8	49.0	58.8	0.0	1.3	2.4	3.4	13.2	14.4	16.6	39 1.16	0.02	10.16	11 39 11.30	..
	β Leonis	13	44.4	46.7	47.9	57.7	58.8	0.1	1.2	2.4	12.3	13.5	15.7	42 0.06	0.05	10.15	11 42 10.16	14.96
24	α Andromedæ	14	0.6	2.8	4.4	14.9	16.3	17.5	19.0	20.1	31.0	32.4	34.7	1 17.61	0.11	8.55	0 1 26.05	16.64
	γ Pegasi	15	54.0	56.2	57.7	7.4	8.6	9.7	10.9	11.9	22.0	23.1	25.3	6 9.71	— 0.05	8.54	0 6 18.20	16.45
	Lacaille 46	16	59.7	0.4	1.9	13.6	15.0	16.4	17.8	19.2	31.1	32.6	35.3	13 16.47	+ 0.15	8.52	0 13 25.14	15.77
	Lacaille 60	17	..	..	..	7.5	8.9	11.5	30.4	33.3	34.9	36.6	37.9	16 25.12	— 32.06	8.52	0 16 1.58	15.74
	Neptune	18	50.9	52.9	54.0	3.6	4.7	5.8	7.6	8.0	17.7	18.8	20.8	23 5.84	0.00	8.50	0 23 14.34	..
	O. Arg. S. 284	19	31.1	33.5	34.8	45.8	46.9	48.2	49.5	50.7	1.5	2.8	5.3	28 48.19	+ 0.10	8.49	0 28 56.78	15.74
	O. Arg. S. 369	20	33.4	35.6	37.0	47.1	48.2	49.5	50.8	51.8	2.2	3.4	5.7	35 49.52	+ 0.08	8.48	0 35 58.08	15.85
	Weisse 665	21	..	..	..	10.0	11.2	13.0	28.5	30.8	32.0	33.4	34.7	39 24.20	— 26.12	8.48	0 39 6.56	16.55
	Lalande 1299	22	55.9	57.8	59.1	8.6	9.6	10.8	11.8	13.0	22.8	23.9	26.0	10 41.85	0.02	8.47	0 41 19.30	16.56
	ε Piscium	23	34.0	36.1	37.3	46.8	47.9	49.1	50.4	51.4	1.0	2.2	4.4	55 49.15	0.03	8.45	0 55 57.57	16.75
	Polaris	24	24.0	45.0	38.0	2.0	46.0	34.0	22.0	5.0	42.0	27.0	51.0	10 36.00	8.55	8.43	.. ..	153.30
	η Piscium	25	53.3	55.4	56.6	6.5	7.6	8.8	9.9	11.0	21.2	23.2	24.5	24 8.91	0.05	8.39	1 24 17.25	17.41
	Polaris, S. P.	26	..	..	..	59.0	18.0	26.0	36.0	56.0	..	..	..	10 27.00	— 1.32	7.09	.. ..	153.06
	Moon II	27	10.7	12.8	14.1	23.8	24.8	26.1	27.4	28.6	38.6	39.6	41.7	13 26.20	+ 0.01	7.09	13 13 33.30	..
	α Virginis	28	42.3	44.3	45.6	55.0	56.0	57.3	58.6	59.7	9.4	10.6	12.7	17 57.41	+ 0.01	..	.. ..	15.19
N. 25	ω Piscium	†29	..	..	32.8	48.0	2.9	17.9	33.1	48.2	3.1	..	..	52 18.00	— 0.02	5.70	23 52 23.68	16.25
	α Andromedæ	†30	..	..	29.1	46.4	3.2	20.1	37.3	..	11.2	..	..	1 4.55	+ 5.77	5.69	0 1 26.01	16.63
	γ Pegasi	†31	..	..	26.1	41.6	57.1	12.4	28.0	43.8	58.9	..	..	6 12.56	+ 0.03	5.68	0 6 18.27	16.44
	Neptune	†32	..	..	21.1	36.3	51.2	6.0	11.2	36.4	51.1	..	..	23 6.19	— 0.05	5.65	0 23 11.79	..
Y. 29	Neptune	33	47.1	49.2	50.4	59.9	0.9	2.0	3.2	4.3	14.0	15.2	17.3	23 2.14	+ 0.01	0.29	0 23 2.44	..
	O. Arg. S. 312	34	5.6	8.1	9.6	20.5	21.6	22.9	24.4	25.5	37.0	38.3	40.5	31 23.10	— 0.21	0.29	0 31 23.18	15.59
	Lacaille 169	35	38.2	41.7	42.0	53.0	54.1	55.5	56.8	58.1	9.4	10.8	13.2	33 55.71	0.21	0.29	0 33 55.79	15.56
	β Ceti	36	33.4	35.7	37.0	47.0	48.1	49.4	50.6	51.8	1.9	3.0	5.4	36 49.39	— 0.12	0.29	0 36 49.56	15.92
	Polaris	37	50.0	47.0	35.5	27.0	1.0	..	54.0	30.0	20.0	13.0	7.5	10 23.60	+ 14.26	0.27	.. ..	..
	Polaris	38	10.5	30.0	22.5	46.5	28.5	17.0	5.5	47.0	21.5	9.5	32.0					
	O. Arg. S. 1066	39	44.9	46.0	47.3	48.6	49.7	..	19.2	21.7	23.0	24.4	25.8	41 5.06	— 17.80	0.26	1 40 47.52	15.60
	O. Arg. S. 1151	40	20.3	22.5	23.9	34.3	35.4	36.6	37.9	39.1	49.7	50.9	53.2	45 36.71	0.16	0.25	1 45 36.80	15.22
	Lacaille 586, (1st *)	41	3.7	5.1	6.4	7.7	10.4	..	16.0	18.6	20.0	21.3	23.7	52 43.29	0.42	0.25	1 52 43.12	15.19
	Lacaille 586, (2d *)	42	27.2	29.3	30.6	40.9	42.0	43.4	44.7	45.9	56.4	57.6	0.0	52 43.45	0.16	0.25	1 52 43.54	15.19
	O. Arg. S. 1266	43	57.6	59.8	1.1	11.8	12.8	14.2	15.5	16.6	27.2	28.4	30.8	57 14.16	— 0.17	0.25	1 57 14.24	15.00
	α Arietis	44	19.2	21.4	22.8	32.9	34.1	35.4	36.7	37.8	48.3	49.6	51.8	59 35.45	+ 0.15	0.25	1 59 35.85	18.49
	O. Arg. S. 1354	45	25.0	27.2	28.7	39.6	40.8	42.3	43.6	44.8	55.8	57.1	59.5	3 42.22	— 0.20	0.25	2 3 42.27	14.65
	* — 27° 53′	46	59.8	2.1	3.5	14.3	15.4	16.7	18.0	19.2	30.3	31.5	33.7	23 16.77	0.19	0.24	2 23 16.82	14.62
	O. Arg. S. 1630	47	..	..	..	..	..	..	6.9	9.6	11.0	12.4	13.8	27 10.74	38.16	0.24	2 26 32.82	14.62
	O. Arg. S. 1744	48	40.0	42.0	43.4	53.4	54.5	55.7	56.9	58.0	8.2	9.4	11.6	34 55.74	— 0.12	0.23	2 34 55.85	15.36
	Weisse 615	49	9.3	11.3	12.6	22.3	23.4	24.6	25.8	26.8	36.7	38.0	40.0	36 24.62	+ 0.08	0.23	2 36 24.93	17.95
	Weisse 639	50	32.2	34.2	35.5	45.3	46.3	47.5	48.7	49.7	59.7	0.9	3.0	37 47.55	+ 0.08	+ 0.23	2 37 47.86	— 17.95

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
Nov.	22, 11.3	+ 10.19	— 0.110	— 0.020
	24, 0.6	8.48	0.110	0.000
	25, 0.0	5.69	0.110	0.000
	29, 3.4	+ 0.21	— 0.027	0.000

29–32. Observed with eye and ear.

r.

November 17, 19h. Image east 0.31. Clamp west.
Image west 0.46. Clamp east.
At 20h. reduced the collimation.
November 19. Before observing set clock back one minute.
November 23, 20h. Lengthened the pendulum of the clock two divisions.

r.

November 21, 18h. 0m. Image west 0.12. Clamp west.
Image east 0.03. Clamp east.
29, 6h. 10m. Image west 0.10. Clamp east.

s.

November 22 . . . . n. = — 0.10.
24, 0h. to 2h. 0.21.
13h. to 14h. — 0.08.
25–29 . . . . + 0.35.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 29	Weisse 724	1	35.0	37.0	38.3	48.0	49.0	50.3	51.5	52.7	2.5	3.7	5.8	42 50.35	+ 0.08	+ 0.23	2 42 50.66	— 18.04
Y.	B. A. C. 894	2	..	..	..	..	..	..	49.9	52.9	54.4	55.8	57.4	46 54.08	— 39.63	0.23	2 46 14.68	14.09
	O. Arg. S. 1901	3	40.2	42.4	44.0	55.0	56.2	57.6	59.0	0.2	11.5	12.9	15.4	48 57.67	0.22	0.23	2 48 57.68	14.06
	* — 27° 29′	4	35.6	37.8	39.2	50.0	51.2	52.5	53.8	55.0	5.8	7.1	9.5	52 52.50	0.19	0.22	2 52 52.53	14.43
	O. Arg. S. 1968	5	40.4	42.6	44.0	54.7	55.8	57.4	58.7	59.8	10.9	12.1	14.4	54 57.35	0.19	0.22	2 54 57.38	14.34
	* — 23° 41′	6	58.9	1.0	2.3	..	..	..	..	..	28.1	29.4	31.7	58 15.23	0.20	0.22	2 58 15.25	14.76
	Lacaille 983	7	24.7	27.0	28.4	39.9	41.0	42.5	43.8	45.0	56.6	57.9	0.4	1 42.47	0.23	0.22	3 1 42.46	13.78
	δ Arietis	8	40.5	42.6	44.0	54.1	55.1	56.4	57.6	58.7	8.8	10.0	12.3	3 56.37	0.12	0.22	3 3 56.71	18.89
	* — 18° 9′	9	42.7	44.8	46.4	56.2	57.2	58.5	59.7	0.7	11.0	12.1	14.4	6 58.50	0.11	0.22	3 6 58.61	15.26
	* — 18° 9′	10	..	..	..	28.9	30.0	32.2	48.2	50.8	52.0	53.3	54.9	7 43.79	27.48	0.22	3 7 16.53	15.26
	Lacaille 1041	11	7.2	9.4	10.7	21.1	22.3	23.6	24.8	26.0	36.4	37.8	38.1	11 23.40	0.16	0.22	3 11 23.46	14.65
	B. A. C. 1049	12	15.3	17.4	18.8	29.4	30.3	31.6	32.8	34.0	44.7	46.0	48.3	15 31.69	0.16	0.21	3 15 31.74	14.62
	O. Arg. S. 2245	13	52.3	54.5	55.8	5.9	7.0	8.3	9.6	10.7	21.0	22.4	24.6	18 8.37	0.14	0.21	3 18 8.44	14.88
	* — 27° 48′	14	..	..	..	8.4	9.7	12.0	29.1	31.9	33.3	34.7	36.3	20 24.42	29.60	0.21	3 19 55.03	14.20
	Lacaille 1113	15	26.6	28.8	30.2	40.5	41.6	42.9	44.3	45.5	56.0	57.2	59.5	23 43.01	0.16	0.21	3 23 43.06	14.59
	ε Eridani	16	20.5	22.5	23.9	33.5	34.5	35.7	36.9	37.9	47.8	48.9	51.0	26 35.74	0.06	0.21	3 26 35.89	16.01
	Lacaille 1134	17	23.7	24.9	26.3	27.8	29.0	..	1.7	4.7	6.0	7.6	8.9	28 46.06	19.82	0.21	3 28 26.45	13.76
	Lacaille 1160	18	28.3	30.7	32.1	43.3	44.6	45.9	47.2	48.6	59.7	1.0	3.6	32 45.91	0.22	0.21	3 32 45.91	13.64
	Lacaille 1176	19	32.9	35.5	37.0	48.6	49.7	51.4	52.8	54.1	5.7	7.1	9.6	34 51.31	0.25	0.21	3 34 51.27	13.21
	Lacaille 1196	20	28.8	31.2	32.5	43.6	44.7	46.2	47.6	48.8	0.1	1.5	4.0	37 46.27	0.22	0.02	3 37 46.25	13.64
	O. Arg. S. 2533	21	47.6	49.7	51.1	1.5	2.5	3.8	5.1	6.3	16.8	18.1	20.4	41 3.90	0.15	0.20	3 41 3.95	14.54
	O. Arg. S. 2556	22	..	..	..	53.3	54.5	56.8	13.0	15.7	17.0	18.3	19.8	43 8.55	28.07	0.20	3 42 40.68	14.79
	* — 32° 41′	23	41.4	43.8	45.3	56.6	57.7	59.2	0.6	1.9	13.6	14.7	17.3	44 59.28	0.23	0.20	3 44 59.25	13.43
	O. Arg. S. 2623	24	52.4	54.5	55.8	6.2	7.3	8.5	9.8	10.9	21.5	22.8	25.1	48 8.62	0.15	0.20	3 48 8.67	14.51
	O. Arg. S. 2741	25	46.4	48.6	50.0	0.2	1.2	2.4	3.8	4.9	15.4	16.6	18.7	56 2.56	0.14	0.20	3 56 2.62	14.72
	Lacaille 1346	†26	0.9	3.3	4.7	15.9	17.0	18.4	19.7	20.9	32.3	33.6	36.1	0 18.44	0.22	0.19	4 0 18.41	13.48
	o^1 Eridani	27	3.0	5.1	6.3	15.8	16.8	18.0	19.2	20.3	30.0	31.1	33.3	5 18.08	0.05	0.19	4 5 18.22	16.25
	O. Arg. S. 2938	28	46.1	48.3	49.6	0.0	1.1	2.3	3.5	4.7	15.1	16.4	18.7	10 2.35	— 0.15	0.19	4 10 2.39	14.41
	α Tauri	29	56.7	58.8	0.1	9.9	11.0	12.3	13.5	14.6	24.5	25.8	28.0	28 12.29	+ 0.10	0.18	4 28 12.57	19.00
	Mars I	30	0.4	2.6	4.0	14.3	15.4	16.8	18.0	19.1	29.7	31.0	33.3	31 16.78	+ 0.16	0.18	4 31 17.12	..
	Mars II	31	38.9	40.4	41.6	43.0	45.6	..	52.2	53.6	55.0	56.3	57.9	31 18.45	— 0.10	0.18	4 31 18.53	..
	Fides	32	36.2	38.6	39.8	50.7	51.7	53.0	54.3	55.5	6.6	7.7	10.0	48 53.10	+ 0.18	0.17	4 48 53.45	..
	α Orionis	33	38.3	40.3	41.6	51.1	52.0	53.3	54.5	55.5	5.3	6.4	8.5	47 53.35	0.05	0.14	5 47 53.54	17.90
	Uranus	34	59.7	1.8	3.3	13.6	14.7	16.0	17.3	18.5	29.0	30.3	32.5	52 16.06	0.15	+ 0.14	5 52 16.35	..
30	ε Bootis	35	49.5	51.6	53.0	3.5	4.7	6.1	7.5	8.7	19.6	20.9	23.3	39 6.22	0.19	— 2.15	14 39 4.26	11.90
	α Coronæ Borealis	†36	42.2	44.6	45.8	56.4	57.6	58.9	0.4	1.4	12.3	13.6	15.8	28 59.00	+ 0.19	2.21	15 28 56.98	11.38
Dec. 1	Sun I	†37	17.0	19.1	20.6	30.8	32.0	33.5	34.7	35.8	46.2	47.4	49.7	31 33.35	— 0.14	2.27	16 31 30.94	..
	Sun II	38	37.8	39.8	41.2	51.7	52.6	53.9	55.1	56.4	6.5	8.0	10.3	33 53.94	— 0.14	2.27	16 33 51.53	..
	α Lyræ	39	3.8	6.3	8.0	20.1	21.3	22.9	24.5	25.8	38.2	39.7	42.2	32 22.98	+ 0.28	2.38	18 32 20.88	— 8.90
6	Venus I	40	32.9	34.9	36.4	46.7	47.8	49.2	50.5	51.7	2.2	3.5	5.7	29 49.23	— 0.39	5.88	19 29 42.96	+ 0.50
	γ Aquilæ	41	40.3	42.3	43.5	53.2	54.2	55.5	56.7	57.8	7.5	8.7	10.9	39 55.51	+ 0.19	5.88	19 39 49.82	— 13.61
	α Aquilæ	42	1.6	3.7	5.0	14.5	15.6	16.8	18.1	19.1	28.9	30.0	32.2	44 16.86	0.16	5.88	19 44 11.14	14.01
	Moon I	43	44.5	46.5	47.7	57.4	58.4	59.7	0.9	2.0	11.9	13.2	15.3	30 59.77	0.03	5.87	23 30 53.93	..
	ι Piscium	44	51.8	53.9	55.1	4.6	5.6	6.8	8.0	9.0	18.6	19.7	21.7	33 6.80	+ 0.10	5.87	23 33 1.03	16.05
	B. A. C. 8287	45	25.8	27.8	29.1	39.2	40.3	41.6	42.8	44.0	54.3	55.7	57.8	43 41.67	— 0.34	5.87	23 43 35.46	15.99
	Lalande 46769	46	..	..	..	46.0	47.0	48.3	49.6	50.8	1.0	2.2	4.4	45 53.66	5.56	5.87	23 45 42.23	15.98
	Lacaille 9663	47	28.3	30.7	32.2	43.6	44.9	46.3	47.7	49.0	0.6	1.9	4.4	50 46.33	— 0.61	5.87	23 50 39.85	15.92
	ω Piscium	48	14.2	16.2	17.4	27.0	28.0	29.2	30.5	31.5	41.0	42.3	44.4	52 29.25	+ 0.12	5.87	23 52 23.50	16.12
	O. Arg. S. 23206	49	..	..	..	..	..	..	40.3	43.0	44.3	45.6	47.1	56 44.06	— 36.33	5.87	23 56 1.86	15.93
	Weisse 1222	50	0.7	2.7	4.0	13.5	14.5	15.7	16.9	18.0	27.6	28.8	30.8	0 15.75	+ 0.12	— 5.87	0 0 10.00	— 16.14

26. Saw but one star.
36–37. Faint.

December 6, 6h. 3m. Image r. 0.00. Clamp east.
Image west 0.27. Clamp west.

November 30–December 1, n. = + 0.35.
December 6, ... + 0.93.
Reduced the azimuth error.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	e.
	h.	s.	s.	s.
Nov. 30,	16.2	— 2.25	— 0.055	0.000
Dec. 6,	0.1	— 5.87	+ 0.003	+ 0.028

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Dec. 6	* — 33° 33′	1	17.2	19.7	21.2	32.6	33.7	35.1	36.6	37.8	49.7	50.9	53.2	4 35.25	— 0.59	— 5.87	0 4 28.79	— 15.74
Y.	O. Arg. S. 65	2	43.4	45.6	46.8	57.3	58.3	59.5	0.8	2.0	12.6	13.9	16.1	6 59.66	0.39	5.87	0 6 53.40	15.73
	Lacaille 26	3	7.7	9.4	10.7	12.3	14.8	. .	27.1	29.9	31.3	32.9	34.5	9 51.06	0.87	5.87	0 9 44.32	15.68
	B. A. C. 49	4	18.1	19.6	21.0	22.5	25.3	. .	37.3	40.2	41.5	43.2	44.8	10 1.35	0.87	5.87	0 9 54.61	15.68
	* — 33° 31′	5	18.5	21.0	22.5	33.7	35.0	36.6	37.8	39.0	51.5	52.0	54.4	13 36.55	0.59	5.87	0 13 30.09	15.67
	O. Arg. S. 138	6	. .	. .	. .	22.2	23.6	25.7	42.6	45.1	46.2	47.7	49.2	15 37.79	— 28.82	5.87	0 15 3.10	15.78
	Neptune	7	41.3	43.4	44.8	54.1	55.2	56.4	57.6	58.6	8.2	9.4	11.5	22 56.41	+ 0.04	5.87	0 22 50.58	. .
	B. A. C. 135	8	49.7	52.0	53.5	4.5	5.6	7.1	8.4	9.7	21.0	22.2	24.6	27 7.12	— 0.52	5.87	0 27 0.73	15.54
	β Ceti	9	39.8	41.9	43.1	53.3	54.3	55.6	56.9	57.9	8.2	9.4	11.4	36 55.62	— 0.30	5.87	0 36 49.45	15.84
	Polaris	10	27.0	23.5	14.0	3.5	38.5	. .	30.0	7.5	56.5	51.0	44.0	9 55.95	+ 39.05	5.87	. . . .	. .
		11	47.0	4.5	58.0	24.0	5.0	54.5	42.5	25.0	58.5	47.5	9.0					
	O. Arg. S. 1066	12	37.8	39.9	41.2	51.3	52.3	53.6	54.8	56.0	6.0	7.2	9.3	40 53.58	— 0.29	5.87	1 40 47.42	15.55
	O. Arg. S. 1151	13	. .	. .	. .	55.8	57.0	59.3	16.0	18.6	19.9	21.4	22.7	46 11.34	28.82	5.87	1 45 36.65	15.17
	* — 23° 35′	14	10.0	11.4	12.9	14.2	16.6	. .	22.2	24.8	26.2	27.7	29.2	52 49.52	0.65	5.86	1 52 43.01	15.14
	* — 23° 35′	15	2.7	3.9	6.1	47.3	48.4	49.7	51.0	52.2	33.3	35.5	36.9	52 49.73	0.39	5.86	1 52 43.48	15.14
	* — 18° 11′	16	19.8	21.8	23.1	33.2	34.3	35.5	36.7	37.9	48.1	49.2	51.4	57 35.55	0.29	5.86	1 57 29.40	15.48
	67 Ceti	17	7.3	9.3	10.6	20.1	21.0	22.3	23.5	24.5	34.2	35.4	37.5	10 22.34	0.09	5.86	2 10 16.39	16.27
	* — 18° 19′	18	35.0	37.0	38.2	48.4	49.4	50.6	51.9	53.0	3.3	4.5	6.6	15 50.63	— 0.29	5.86	2 15 44.48	15.41
	ξ^2 Ceti	†19	51.3	53.3	54.5	4.0	5.1	6.3	7.5	8.4	18.1	19.4	21.6	21 6.32	+ 0.15	5.86	2 21 0.61	17.41
	α Tauri	†20	. .	. .	. .	30.5	31.6	33.7	49.5	52.0	53.3	54.6	56.1	28 45.16	— 26.80	5.86	4 28 12.50	19.07
7	Moon I	21	7.3	9.2	10.6	20.4	21.4	22.6	23.8	24.9	34.8	36.0	37.9	26 22.63	0.02	5.35	0 26 17.26	. .
E.	δ Piscium	22	32.1	34.2	35.5	44.9	46.1	47.2	48.4	49.5	59.1	0.3	2.4	41 47.25	0.02	5.37	0 41 41.86	16.52
	ε Piscium	23	47.6	49.8	51.1	0.4	1.6	2.9	3.9	5.1	14.8	15.9	18.1	56 2.84	0.03	5.38	0 55 57.43	16.65
	η Piscium	24	7.1	9.2	10.6	20.1	21.2	22.5	23.7	24.9	34.8	36.1	38.3	24 22.59	0.07	5.49	1 24 17.12	17.33
	ν Piscium	25	16.2	18.2	19.5	28.9	29.9	. .	32.3	33.5	42.9	44.4	46.4	34 31.22	0.03	5.41	1 34 25.78	16.83
	ξ Piscium	26	25.8	27.8	29.1	38.5	39.6	40.8	42.0	43.1	52.7	53.9	55.8	46 40.83	0.00	5.42	1 46 35.41	16.79
	ξ^2 Ceti	27	50.8	53.0	54.3	3.7	4.7	6.0	7.2	8.3	17.9	19.1	21.1	21 6.01	0.03	5.45	2 21 0.53	17.40
	γ Ceti	28	10.3	12.4	13.6	23.0	24.1	25.4	26.5	27.7	37.3	38.4	40.5	36 25.38	0.00	5.46	2 36 19.92	17.02
Y. 8	ε Piscium	29	48.8	51.0	52.1	1.1	2.1	3.9	5.0	6.1	15.9	17.1	19.1	56 3.95	0.04	6.46	0 55 57.45	16.64
	Moon I	30	0.3	1.6	2.9	4.3	6.6	. .	9.3	11.7	12.9	14.3	15.6	22 37.95	0.30	6.48	1 22 31.17	. .
	η Piscium	31	8.2	10.2	11.5	21.3	22.3	23.6	24.9	25.9	36.0	37.1	39.2	24 23.65	0.08	6.49	1 24 17.08	17.32
	ν Piscium	32	17.3	19.3	20.6	30.1	31.0	32.2	33.4	34.5	44.1	45.3	47.3	34 32.28	0.03	6.49	1 34 25.76	16.82
	o Piscium	33	8.7	10.7	12.1	21.7	22.6	23.8	25.0	26.1	35.8	37.0	39.0	38 23.86	0.05	6.50	1 38 17.31	17.12
	β Arietis	34	3.3	5.6	6.8	17.0	18.1	19.4	20.7	21.8	32.0	33.2	35.5	47 19.40	— 0.12	6.53	1 47 12.75	18.02
E. 12	β Ceti	35	45.1	47.0	48.5	58.5	59.6	0.9	2.1	3.1	13.2	14.4	16.7	37 0.83	+ 0.12	11.55	0 36 49.40	15.77
	δ Piscium	36	38.1	40.4	41.8	51.0	52.0	53.3	54.4	55.6	5.3	6.5	8.7	41 53.37	— 0.05	11.56	0 41 41.76	16.47
	20 Ceti	37	4.0	5.9	7.2	17.0	17.9	19.0	20.1	21.1	31.0	32.0	34.0	46 19.02	+ 0.01	11.56	0 46 7.47	16.22
	α Sculptoris	38	0.7	3.0	4.5	15.4	16.5	17.9	19.4	20.5	31.6	32.8	35.3	52 17.96	+ 0.20	11.57	0 52 6.59	15.19
	26 Ceti	39	49.9	51.9	53.0	2.4	3.5	4.7	6.0	6.9	16.6	18.0	19.7	57 4.78	0.00	11.57	0 56 53.21	16.36
	* + 0° 36′	†40	22.8	24.8	26.1	35.3	36.3	37.7	39.0	40.0	49.5	50.8	52.7	4 37.73	0.00	11.58	1 4 26.15	16.41
	Polaris	41	. .	. .	. .	21.0	2.5	47.5	34.0	18.5	. .	. .	. .	10 48.70	— 12.26	11.59	. . . .	142.66
	α Persei	42	33.7	37.3	38.7	53.6	54.9	56.6	58.7	0.1	14.9	16.5	20.0	14 56.82	0.41	11.71	3 14 44.70	24.02
	Weisse 334	43	51.0	53.0	54.1	4.1	5.1	6.3	7.4	8.7	18.5	19.5	21.9	20 6.33	— 0.08	11.71	3 19 54.55	18.23
Y. 14	α Aquarii	44	51.8	53.8	55.2	4.6	5.7	6.8	8.1	9.1	18.6	19.8	21.9	59 6.85	+ 0.01	16.00	21 58 50.86	15.34
E.	Neptune	45	45.4	47.5	48.6	58.2	59.3	0.4	1.6	2.7	12.3	13.5	15.5	23 0.45	— 0.02	16.04	0 22 44.39	. .
	β Ceti	46	49.5	51.7	53.1	2.9	4.0	5.2	6.4	7.5	17.7	19.0	21.0	37 5.27	+ 0.12	16.04	0 36 49.35	15.74
	60 Piscium	47	26.7	28.8	30.1	39.4	40.5	41.8	43.0	44.1	53.6	54.9	57.0	40 41.81	— 0.05	16.04	0 40 25.72	16.42
	20 Ceti	48	8.5	9.4	11.9	21.1	22.3	23.5	24.6	25.8	35.3	36.5	38.4	46 23.33	0.00	16.05	0 46 7.28	16.20
	α Sculptoris	49	5.2	7.4	9.8	19.6	20.9	22.5	23.8	25.1	36.0	37.5	39.9	52 22.52	+ 0.21	16.05	0 52 6.68	15.16
	ε Piscium	50	58.4	0.5	1.7	11.2	12.3	13.5	14.7	15.8	25.5	26.6	28.5	56 13.52	— 0.06	16.05	0 55 57.41	— 16.58
	Polaris	51	. .	. .	. .	27.5	3.5	51.0	40.0	23.5	. .	. .	. .	10 53.10	— 13.75	—16.05	. . . .	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
Dec. 7,	1.8	— 5.42	— 0.046	+ 0.020
8,	1.5	6.49	0.050	+ 0.010
12,	1.9	11.63	0.060	0.000
14,	23.8	— 16.03	— 0.016	— 0.010

19. Unsteady.
20. Through fog.
40. Very unsteady.

	s.
December 7 . . . . n.	= — 0.35.
8–12	0.35.
14	— 0.38.

December 14. Clock stopped at 4h. 3m. 30s.
Clock stopped at 6h. 22m. 30s.
Clock stopped at 6h. 42m. 30s.
November 15. The clock was cleaned by Mr. Clarke, and the weight was increased.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Dec. 17	ε Eridani	†1	14.3	16.4	17.5	27.3	28.4	29.6	30.7	31.8	41.6	42.9	44.9	26 29.58	+ 0.02	+ 6.20	3 26 35.80	— 14.66
Y.	η Tauri	†2	44.7	46.0	47.4	48.6	51.2	. .	56.7	59.3	0.6	2.0	3.5	39 24.00	— 0.38	6.20	3 39 29.82	19.76
N. 20	Neptune	†3	. .	. .	. .	4.5	19.2	34.2	49.4	4.5	. .	. .	. .	22 34.36	0.10	10.78	0 22 45.04	. .
	β Ceti	†4	. .	. .	51.1	6.9	22.6	38.4	54.4	10.2	25.9	. .	. .	36 38.50	0.01	10.78	. . . .	15.67
Y.	Polaris	†5	9.0	27.5	21.0	44.5	27.5	17.5	7.0	46.5	22.0	12.0	34.0	10 18.95	9.80	9.54	. . . .	. .
	η Piscium	6	52.0	54.2	55.3	5.2	6.1	7.4	8.6	9.7	19.7	20.9	23.0	24 7.46	0.08	9.54	. . . .	17.21
	Mars I	7	40.6	42.7	44.1	54.3	55.6	56.8	58.1	59.3	9.7	11.0	13.2	1 56.86	0.12	24.80	4 2 21.54	. .
	Mars II	8	18.8	20.4	21.7	23.0	25.5	. .	30.9	33.5	34.8	36.0	37.6	1 58.22	0.38	24.80	4 2 22.64	. .
	γ Tauri	9	28.5	30.6	31.8	41.7	42.7	44.0	45.2	46.3	56.2	57.5	59.6	11 44.01	0.08	24.80	4 12 8.73	18.98
	α Tauri	10	. .	. .	. .	45.5	46.6	47.9	49.1	50.2	0.2	1.5	3.5	27 53.06	5.25	24.80	4 28 12.61	19.15
N. 22	Neptune	11	. .	. .	. .	. .	. .	. .	42.2	44.5	45.7	47.0	48.4	22 45.56	— 33.68	34.19	0 22 45.05	. .
	β Ceti	12	59.2	1.3	2.6	12.7	13.7	15.0	16.3	17.4	27.5	28.8	30.9	36 15.04	+ 0.01	34.21	0 36 49.26	15.64
	ε Piscium	13	8.0	10.0	11.3	20.8	21.8	23.1	24.2	25.3	35.0	36.2	38.3	55 23.09	— 0.03	34.24	0 55 57.30	16.49
Y.	O. Arg. S. 2741	14	11.9	14.0	15.4	25.5	26.7	27.9	29.2	30.3	40.7	42.0	44.1	55 27.97	+ 0.02	34.64	3 56 2.63	14.73
	Mars I	15	26.7	28.1	29.4	30.7	33.1	. .	38.5	40.9	42.4	43.7	45.3	0 5.88	— 0.32	34.65	4 0 40.21	. .
	Mars II	16	50.6	52.8	54.1	4.4	5.5	6.7	8.1	9.2	19.7	21.0	23.2	0 6.85	0.06	34.65	4 0 41.44	. .
	o^1 Eridani	17	28.5	30.6	31.9	41.4	42.5	43.6	44.9	46.0	55.7	56.9	58.9	4 43.72	— 0.01	34.65	4 5 18.36	16.32
	O. Arg. S. 2938	18	11.5	13.7	14.9	25.4	26.4	27.8	29.0	30.1	40.6	42.0	44.4	9 27.80	+ 0.02	34.66	4 10 2.48	14.44
	* — 31° 37′	19	. .	. .	. .	30.0	31.4	33.7	51.6	54.4	55.8	57.5	58.9	13 46.66	— 30.51	34.66	4 13 50.81	13.38
	O. Arg. S. 3044	20	10.4	12.7	14.0	24.8	26.9	27.3	28.5	29.8	40.8	42.0	44.4	17 27.33	+ 0.03	34.67	4 18 2.03	13.86
	O. Arg. S. 3082	21	58.6	0.9	2.2	12.5	13.6	14.9	16.2	17.3	27.9	29.2	31.4	20 14.97	0.02	34.68	4 20 49.67	14.44
	Lacaille 1485	22	44.6	46.8	48.3	59.2	0.3	1.6	2.9	4.1	15.4	16.6	18.9	24 1.70	0.03	34.68	4 24 36.41	13.68
	Fides	23	7.4	9.8	11.1	21.6	22.7	24.0	25.4	26.7	37.4	38.8	41.1	26 24.18	0.03	34.68	4 26 58.89	13.97
	* — 26° 58′	24	35.3	37.3	38.8	49.4	50.5	51.9	53.3	54.4	5.2	6.5	8.8	27 51.95	+ 0.03	34.68	4 28 26.66	13.97
	μ Eridani	25	57.3	59.3	0.5	10.1	11.1	12.4	13.5	14.6	24.1	25.4	27.5	38 12.35	— 0.01	34.70	4 38 47.04	16.82
	O. Arg. S. 3389	26	50.7	53.0	54.4	5.4	6.5	7.8	9.2	10.4	21.6	22.9	25.3	41 7.93	+ 0.03	34.71	4 41 42.67	13.58
	O. Arg. S. 3630	27	43.2	45.5	46.8	57.6	58.6	.	1.3	2.6	13.6	14.8	17.1	58 0.10	+ 0.02	34.73	4 58 34.85	13.80
	O. Arg. S. 3680	†28	. .	. .	. .	4.4	5.5	7.0	8.3	9.5	20.3	21.6	24.0	1 12.57	— 5.62	34.74	5 1 41.69	13.67
	* — 25° 34′	29	. .	. .	. .	10.6	11.7	12.8	14.1	15.4	26.2	27.5	29.4	4 18.46	5.47	34.74	5 4 47.73	14.11
	Fortuna	30	30.3	32.4	33.6	43.8	44.9	46.1	47.4	48.6	58.8	0.0	2.3	9 46.20	— 0.06	34.75	5 10 20.89	. .
	* — 20° 10′	31	. .	. .	. .	11.5	12.6	13.8	15.0	16.2	. .	. .	. .	16 13.82	+ 0.07	34.76	5 16 48.65	14.81
	Weisse 776	32	54.9	56.8	58.1	7.5	8.6	9.8	11.0	12.0	21.6	22.7	25.0	31 9.82	— 0.02	14.81	5 31 24.61	17.12
α	Columbæ	33	14.7	. .	. .	30.0	31.3	. .	34.2	. .	47.3	48.6	51.1	34 36.74	— 3.86	14.81	5 34 47.69	12.86
	O. Arg. S. 4355	34	40.8	43.0	44.4	55.2	56.4	57.7	58.9	0.1	11.1	12.2	14.4	43 57.65	+ 0.03	14.82	5 44 12.50	14.00
	Uranus	35	32.7	35.1	36.5	46.7	47.8	49.1	50.0	51.5	2.0	3.4	5.7	47 49.14	— 0.06	14.82	5 48 3.90	. .
ν	Orionis	36	23.7	25.8	27.1	36.9	38.0	39.1	40.5	41.5	51.4	52.6	54.8	59 39.22	0.05	14.83	5 59 54.00	— 19.18
δ	Ursæ Minoris, S. P.	37	. .	. .	. .	. .	. .	. .	6.0	45.0	5.0	26.5	48.5	24 2.20	9 18.23	44.58	18 15 28.55	+ 122.75
γ	Geminorum	38	56.8	58.8	0.1	10.0	11.1	12.3	13.6	14.6	24.7	25.8	27.9	29 12.34	— 0.05	44.58	6 29 56.87	— 19.39
	Euterpe	39	. .	. .	. .	54.1	55.2	57.4	13.9	16.6	18.0	19.3	20.7	54 9.40	28.33	44.59	6 54 25.66	. .
44	Geminorum	40	11.9	13.9	15.3	25.8	26.9	28.2	29.4	30.5	41.1	42.2	44.5	56 28.15	0.06	44.59	6 57 12.68	20.15
δ	Geminorum	41	4.8	7.0	8.3	18.5	19.7	21.0	22.2	23.4	33.9	35.0	37.3	11 21.01	0.06	44.59	7 12 5.54	19.97
θ	Virginis	42	58.3	0.1	1.6	11.1	12.2	13.3	14.4	15.5	25.3	26.4	28.4	2 13.33	— 0.01	44.67	13 2 57.99	15.80
	Polaris, S. P.	43	. .	. .	. .	56.0	37.0	25.5	15.0	58.0	. .	. .	. .	9 26.30	+ 2.96	44.67	1 10 13.93	134.33
α	Virginis	44	5.4	7.4	8.7	18.4	19.4	20.6	21.8	22.8	32.8	33.9	36.1	17 20.66	0.00	44.66	13 18 5.32	16.03
	Moon II	45	18.8	20.9	22.1	31.9	33.0	34.3	35.5	36.5	46.7	47.9	49.9	41 34.32	0.00	44.67	13 42 18.99	. .
η	Bootis	46	14.8	16.8	18.3	28.3	29.3	30.6	31.9	32.9	43.2	44.5	46.6	48 30.65	0.06	+44.67	13 49 15.26	14.06
24 η	Aquarii	47	12.4	14.4	15.8	25.2	26.2	27.3	28.6	29.6	39.2	40.4	42.4	28 27.41	0.03	— 2.29	22 28 25.09	15.41
α	Pegasi	48	49.4	51.5	52.8	2.6	3.6	4.8	6.0	7.2	17.1	18.3	20.5	58 4.89	0.10	2.26	22 58 2.53	15.17
	Radcliffe 6067	49	21.1	24.4	26.5	42.8	44.6	46.5	48.6	50.5	6.9	8.9	12.6	18 46.67	0.40	2.24	23 18 44.03	14.40
	Radcliffe 6081	50	31.3	34.6	37.0	53.0	54.6	56.7	58.6	0.6	17.0	18.9	22.5	20 56.80	— 0.39	— 2.24	23 20 54.17	— 14.53

1. Blurred; through clouds.
2. Through clouds.
3-4. Observed with eye and ear.
5. Steady.
28. Faint.

		s.
December 17–20	n. =	— 0.22.
22		0.10.
24		— 0.25.

December 20. 1h. 27m., clock stopped.
December 22. Clock stopped at 5h. 19m.
Clock stopped at 6h. 1m.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Dec. 17, 3.6	+ 6.20	. .	— 0.020
20, 0.6	10.78	. .	. .
1.4	9.54	. .	. .
4.4	24.80	. .	. .
22, 2.6	34.52	+ 0.090	0.020
5.8	14.82	0.052	0.020
10.8	+ 44.64	0.014	0.020
24, 23.6	— 2.22	+ 0.068	— 0.030

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Dec. 24	O. Arg. S. 22897	1	. .	. .	. .	1.4	2.5	3.8	5.0	6.2	16.6	17.9	20.0	26 9.17	— 5.24	— 2.23	23 26 1.70	— 15.85
Y. 21	Piscium	2	20.4	21.4	23.7	33.2	34.1	35.3	36.5	37.6	47.3	48.5	50.5	42 35.32	— 0.03	2.21	23 42 33.08	15.77
	O. Arg. S. 23120	3	27.0	29.2	30.7	40.8	42.0	43.3	44.6	45.8	56.4	57.5	59.8	47 43.37	+ 0.08	2.21	23 47 41.24	15.72
	O. Arg. S. 23126	†4	36.0	38.3	39.7	50.0	51.2	52.4	53.7	54.9	5.7	6.8	8.8	48 52.41	+ 0.08	2.21	23 48 50.28	15.71
	ω Piscium	5	10.5	12.5	13.7	23.3	24.4	25.5	26.8	27.8	37.5	38.7	40.7	52 25.58	— 0.06	2.20	23 52 23.32	15.91
	Weisse 71	6	52.2	54.2	55.4	5.0	6.0	7.2	8.4	9.4	19.1	20.2	22.3	5 7.22	0.03	2.20	0 5 4.99	15.89
	Neptune	7	35.0	37.1	38.4	47.9	48.9	50.1	51.2	53.3	2.0	3.1	5.1	22 50.19	0.03	2.17	0 22 47.99	. .
	Weisse 477	8	20.0	22.1	23.4	32.6	33.7	34.9	36.0	37.3	45.8	48.0	50.0	28 34.89	0.05	2.16	0 28 32.68	16.13
	Weisse 556	9	. .	. .	. .	22.0	23.1	24.4	25.4	26.6	36.3	37.5	39.5	33 29.35	5.02	2.15	0 33 22.18	16.20
	Weisse 616	10	6.0	8.1	9.3	18.7	19.8	21.0	22.2	23.4	33.0	34.2	36.2	36 21.08	0.05	2.15	0 36 18.88	16.26
	Weisse 845	11	. .	. .	. .	10.6	11.7	12.9	14.0	15.0	24.8	25.9	27.9	49 17.85	— 4.98	2.14	0 49 10.73	16.01
	O. Arg. S. 542	12	29.7	32.1	33.5	44.3	45.4	46.8	48.1	49.2	0.2	1.5	3.7	51 46.77	+ 0.10	2.13	0 51 44.74	15.12
	ε Piscium	13	44.4	46.4	47.8	57.1	58.2	59.5	0.7	1.8	11.3	12.5	14.7	55 59.49	— 0.06	2.13	0 55 57.30	16.47
	Weisse 1041	14	. .	. .	. .	46.1	47.2	49.3	4.4	6.8	8.2	9.4	10.6	1 0.25	26.05	2.13	0 59 32.07	16.16
	Weisse 20	15	4.7	6.6	7.8	17.2	18.3	19.5	20.8	21.8	31.4	32.5	34.6	3 19.56	0.04	2.12	1 3 17.40	16.34
	Polaris	16	. .	. .	. .	57.5	37.0	27.5	16.5	58.0	. .	. .	. .	10 27.30	9.49	2.12	. . . .	133.29
N. 11	Orionis	†17	. .	8.9	. .	24.5	39.9	55.4	11.0	26.8	. .	42.0	. .	56 55.50	0.16	— 1.86	. . . .	19.15
E. 28	Sun II	18	42.4	44.9	46.4	56.6	57.7	58.9	0.2	1.3	12.0	13.1	15.3	32 58.98	— 0.23	+ 3.24	18 33 1.99	71.14
	α Cygni	19	24.2	26.6	28.7	42.0	43.4	45.2	46.8	48.4	1.9	3.5	6.5	36 45.20	+ 0.36	3.36	. . . .	9.34
Y. 29	γ Eridani	20	25.0	27.2	28.3	38.2	39.1	40.4	41.6	42.7	52.7	53.9	55.9	51 40.45	— 0.15	5.18	3 51 45.48	15.56
	Mars I	21	14.8	17.0	18.3	28.7	29.7	31.0	32.2	33.4	43.9	45.2	47.5	56 31.06	+ 0.14	5.18	3 56 36.38	. .
	Mars II	22	53.4	54.9	56.0	57.3	59.8	. .	5.0	7.7	9.0	10.4	11.9	56 32.54	— 0.12	5.18	3 56 37.60	. .
	O. Arg. S. 2303	23	4.9	7.0	8.4	18.8	19.9	21.3	22.6	23.6	34.0	35.5	37.6	0 21.24	0.23	5.18	4 0 26.19	14.42
	* — 28° 10′	24	32.5	34.7	36.1	47.0	48.2	49.4	50.8	51.9	3.0	4.2	6.7	3 49.50	0.27	5.18	4 3 54.41	13.84
	* — 28° 18′	25	44.0	46.3	47.6	58.5	59.6	1.8	2.3	3.4	14.4	15.7	18.0	7 1.96	0.27	5.18	4 7 6.87	13.82
	O. Arg. S. 2930	26	24.2	26.3	27.9	38.8	40.0	41.3	42.8	44.0	55.2	56.6	59.0	9 41.46	0.29	5.18	4 9 46.35	13.52
	* — 27° 3′	27	0 0	2.3	3.6	14.3	15.4	16.7	17.9	19.2	30.2	31.4	33.8	13 16.80	0.26	5.18	4 13 21.72	13.96
	O. Arg. S. 3044	28	40.0	42.2	43.7	54.5	55.6	56.9	58.2	59.5	10.4	11.7	14.0	17 56.97	0.27	5.19	4 18 1.89	13.83
	* — 23° 40′	29	46.3	48.5	49.8	0.2	1.2	2.6	3.8	5.1	15.6	16.7	19.1	25 2.63	0.23	5.19	4 25 7.59	14.38
	* — 30° 50′	30	. .	. .	. .	45.8	47.0	48.3	49.7	50.9	2.2	3.6	5.8	28 54.16	6.07	5.19	4 28 53.28	13.41
	Lacaille 1533	31	. .	. .	. .	30.7	32.0	33.3	34.8	36.0	47.1	48.5	50.9	31 39.16	6.08	5.19	4 31 38.27	13.38
	μ Eridani	32	27.0	28.9	30.2	39.7	40.7	41.9	43.2	44.2	53.9	54.9	57.0	38 41.96	0.07	5.19	4 38 47.08	16.82
	B. A. C. 1482	33	42.3	44.5	45.9	56.7	57.9	59.3	0.5	1.7	12.7	14.0	16.3	40 59.25	0.27	5.19	4 41 4.17	13.74
	Lacaille 1615	34	14.4	16.7	18.1	28.5	29.6	31.0	32.3	33.4	44.1	45.4	47.7	45 31.02	0.25	5.19	4 45 35.96	14.12
	Weisse 1028	35	. .	. .	. .	. .	. .	. .	3.2	5.7	7.0	8.2	9.6	48 6.74	34.00	5.19	4 47 37.93	18.24
	* + 5° 55′	36	35.7	37.9	39.2	48.6	49.5	50.7	51.8	52.9	2.7	3.8	5.9	54 50.79	0.00	5.19	4 54 55.98	17.96
	ε Leporis	37	25.6	27.7	29.0	39.3	40.4	41.6	42.9	44.1	54.6	55.8	58.0	59 41.73	0.22	5.19	4 59 46.70	14.51
	Fortuna	†38	. .	. .	. .	. .	. .	7.9	9.1	10.3	20.6	21.6	24.0	4 15.58	7.57	5.19	5 4 13.20	. .
	O. Arg. S. 3830	39	32.3	34.5	35.9	46.6	47.7	49.1	50.4	51.6	2.6	3.7	6.1	11 49.14	0.27	5.20	5 11 54.07	13.84
	Weisse 478	†40	29.1	31.1	32.7	58.1	59.3	1.3	17.4	20.1	21.5	22.8	24.2	18 1.60	— 16.29	5.20	5 17 50.51	20.06
	* + 5° 6′	41	2.1	4.3	5.5	15.8	16.9	18.1	19.4	20.4	30.7	32.1	34.5	27 18.16	0.00	5.20	5 27 23.36	17.94
	* + 5° 5′	42	59.7	1.8	3.1	13.4	14.5	15.8	17.0	18.1	28.5	29.7	31.9	28 15.77	0.00	5.20	5 28 20.97	17.94
	* + 5° 3′	43	15.4	17.6	19.4	29.0	30.2	31.5	32.8	33.9	44.3	45.5	47.7	29 31.57	0.00	5.20	5 29 36.77	17.94
	ε Bootis	44	42.7	45.0	46.4	56.9	58.1	59.5	0.9	2.1	12.9	14.2	16.5	38 59.56	+ 0.18	5.30	14 39 5.04	12.65
	α Libræ	45	4.1	6.2	7.6	17.3	18.3	19.7	20.9	22.0	31.9	33.2	35.3	43 19.68	— 0.16	5.30	14 43 24.82	— 16.58
	β Ursæ Minoris	46	0.5	7.9	12.5	48.3	52.1	56.7	1.2	5.3	41.8	46.2	53.9	50 56.95	+ 1.39	5.30	. . . .	+ 5.69
	α Ophiuchi	47	18.5	20.7	21.9	31.8	32.8	34.0	35.2	36.3	46.1	47.3	49.4	28 34.00	+ 0.05	5.33	17 28 39.38	— 13.15
30	Sun I	†48	9.8	12.0	13.5	23.7	24.9	26.2	27.9	28.6	39.3	40.5	42.4	39 26.22	— 0.22	5.34	18 39 31.34	+ 71.08
	ζ Cygni	49	48.3	50.5	52.0	2.9	4.0	5.5	6.8	8.0	19.1	20.6	22.8	7 5.50	+ 0.19	5.37	21 7 11.06	— 12.28
	Venus I	50	52.0	54.0	55.4	5.3	6.3	7.7	8.9	9.9	20.0	21.2	23.3	30 7.64	— 0.17	5.37	21 30 12.84	+ 10.54
	ε Pegasi	51	12.5	14.6	15.8	25.4	26.5	27.7	28.9	29.9	39.6	40.8	42.9	37 27.69	+ 0.03	+ 5.38	21 37 33.10	— 14.48

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Dec. 28, 20.6	+ 3.36	+ 0.057	— 0.040
29, 12.9	+ 5.28	+ 0.011	— 0.040

4. Faint.
17. Observed with eye and ear.
38. Very faint.
40. Through clouds.
48. Faint; through clouds.

December 24. Adjusted a new weight to clock one-half of a pound heavier than the last.
24. At 1h. 15m. the galvanic circuit was broken by a displacement of the wires.

r.
27, 22h. Image east 0.50. Clamp east.
Image east 0.40. Clamp west.

s.
28–29, n. = + 0.42.
29–30, + 0.42.

OBSERVATIONS

WITH

THE MURAL CIRCLE,

1864.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Jan. 2	1	Sun N. L.		4	I–IV.	61 34 56.3	72.0	66.0	71.2	66.1	53.1	64.12	35.355	.376	30.320
	2	Sun S. L.		4	VI–IX.	62 4 55.2	70.3	64.0	70.5	65.0	52.0	62.83	30.310	.358	- -
	3	*α* Ceti		5	III–VII.	35 19 55.0	67.0	63.1	64.8	64.1	50.2	60.70	30.609	.611	30.384
	4	Anon. 3h. 0m. 40s.		2	IV & VI.	37 59 55.0	67.6	63.2	65.4	65.6	51.6	61.40	29.897	.911	- -
	5	Nadir 4h. 38m.		3	- -	179 59 55.2	68.5	63.1	66.2	62.1	49.3	60.73*d*	29.921	.935	- -
	6	Uranus		5	III–VII.	15 29 55.0	68.0	62.3	64.8	62.3	49.0	60.23	27.654	.652	30.400
5	7	Vesta		5	III–VII.	117 44 54.5	66.1	56.9	59.7	63.0	55.1	58.88	31.421	.436	30.110
	8	17 Tauri		5	III–VII.	105 14 53.8	67.9	62.0	62.7	66.8	54.6	61.30	35.081	.102	- -
	9	23 Tauri		3	IV–VI.	" " "	"	"	"	"	"	"	16.547	.550	- -
	10	*η* Tauri	5	3	IV–VI.	" " "	"	"	"	"	"	"	34.940	.955	- -
	11	27 Tauri	6	3	II–IV.	" " "	"	"	"	"	"	"	29.507	.489	- -
	12	28 Tauri	7	4	VI–IX.	" " "	"	"	"	"	"	"	39.122	.144	- -
	13	B. A. C. 1195	8	1	V.	" " "	"	"	"	"	"	"	19.505	.513	30.134
	14	γ^1 Eridani		5	III–VII.	142 49 53.4	66.1	60.7	59.8	64.3	52.0	59.38	37.028	.052	- -
	15	*α* Tauri, (Ref.)		3	I, III, IV.	247 19 55.2	65.8	62.0	65.0	64.0	55.1	61.18	28.441	.446	30.154
	16	*α* Tauri		2	VIII, IX.	112 39 54.9	67.4	61.5	60.7	64.9	54.1	60.58	31.332	.367	- -
	17	Nadir 4h. 43m.		3	- -	269 59 54.2	65.8	59.7	61.9	62.7	53.7	59.67*d*	29.880	.892	- -
	18	*α* Aurigæ		5	III–VII.	83 4 53.5	66.9	62.0	62.3	64.0	53.3	60.33	34.871	.875	30.164
	19	*β* Tauri		5	III–VII.	100 24 54.9	66.7	61.7	62.0	64.0	53.6	60.48	31.563	.563	- -
	20	Uranus		5	III–VII.	105 29 55.0	69.0	63.2	63.8	67.1	55.6	62.28	26.906	.917	30.166
8	21	Sun N. L.		4	I–IV.	150 49 57.8	65.0	61.5	60.6	66.6	53.0	60.75	25.688	.690	- -
	22	Sun S. L.		4	VI–IX.	151 24 58.3	66.1	61.8	62.2	66.9	53.5	61.47	30.301	.346	30.015
	23	Mercury		5	I–IX.	148 14 56.9	63.6	59.9	57.6	64.1	50.9	58.83	27.469	.489	29.998
	24	Nadir 1h. 55m.		4	- -	269 59 57.8	64.9	60.4	60.3	64.2	52.2	59.93*d*	29.785	.801	- -
	25	*α* Ceti		2	III & V.	125 19 58.2	67.4	62.3	61.8	66.3	52.8	61.47	30.476	.483	- -
	26	Vesta		1	V.	117 29 58.2	67.3	61.1	61.6	64.5	52.4	60.85	26.348	.371	30.012
	27	*α* Persei		5	III–VII.	79 29 57.8	68.2	64.3	63.1	67.7	55.8	62.82	27.623	.615	- -
	28	*γ* Ursæ Minoris, S. P.		3	5, V, 1.	21 14 57.6	65.7	61.7	63.2	65.6	53.5	61.22	29.730	.733	30.018
	29	*δ* Persei		5	III–VII.	81 34 56.5	65.8	60.4	60.6	63.7	52.6	59.93	34.259	.278	- -
	30	B. A. C. 1211		4	III, IV, V, VII	48 34 57.0	65.6	61.0	62.7	66.0	53.8	61.02	29.191	.173	30.016
	31	A^1 Tauri		5	I–IX alt.	107 9 57.6	67.9	62.2	60.4	64.6	51.5	60.70	28.208	.225	- -
	32	*γ* Tauri		3	I–V alt.	113 39 56.9	67.2	61.3	61.9	64.4	52.2	60.65	38.647	.642	- -
9	33	Sun S. L.		4	I–IV.	151 19 57.0	69.3	62.8	64.0	66.3	51.0	61.73	36.435	.451	30.148
	34	Sun N. L.		4	VI–IX.	150 49 56.0	69.0	62.5	62.3	66.3	50.2	61.05	41.389	.427	- -
	35	Nadir 20h. 51m. 52s.		3	- -	269 59 56.1	65.6	58.7	60.2	64.1	50.5	59.20	29.729	.745	- -
	36	Weisse III, 20	7	4	I–IV.	117 29 56.7	67.1	58.1	61.0	63.3	51.9	59.68	26.356	.358	30.160
	37	Vesta	8	2	VIII & IX.	" " "	"	"	"	"	"	"	34.925	.949	- -
	38	Anon. 3h. 30m. 2s.	8	1	V.	147 54 57.8	67.0	61.8	62.6	63.8	51.9	60.82	35.320	.345	- -
	39	17 Tauri	6	1	V.	105 14 57.8	70.6	64.0	65.2	68.0	54.0	63.27	35.011	.031	- -
	40	23 Tauri		1	V.	" " "	"	"	"	"	"	"	16.464	.476	- -
	41	*η* Tauri		1	V.	" " "	"	"	"	"	"	"	34.899	.913	- -
	42	27 Tauri		1	V.	" " "	"	"	"	"	"	"	29.458	.470	- -
	43	28 Tauri		1	IX.	" " "	"	"	"	"	"	"	39.065	.092	30.150
	44	Hebe	9	1	V.	126 54 58.3	68.0	61.3	62.3	65.4	51.5	61.13	38.402	.420	30.144
	45	Nadir 4h. 41m.		3	- -	269 59 58.2	67.9	61.6	64.0	65.3	53.1	61.68*d*	29.822	.837	- -
	46	Uranus		5	III–VII.	105 34 58.0	72.0	64.0	65.5	68.1	53.8	63.57	35.454	.464	30.156
10	47	Venus S. L.		3	II, V & VIII.	147 44 56.8	64.2	60.6	59.3	61.8	51.2	58.98	33.808	.822	30.033
	48	Venus N. C.		2	IV & VI.	" " "	"	"	"	"	"	"	34.430	.446	- -
11	49	Sun N. L.		4	I–IV.	150 24 57.3	67.4	62.2	63.2	65.7	52.6	61.40	27.562	.567	- -
	50	Sun S. L.		4	VI–IX.	150 59 56.6	66.3	60.7	61.8	64.8	51.7	60.33	32.166	.211	29.973
	51	Mercury		1	V.	146 54 57.6	65.3	59.3	60.0	64.8	54.9	60.32	30.878	.891	29.951
	52	*σ* Ceti	4.8	1	V.	144 39 57.8	64.9	59.5	59.5	65.1	53.4	60.03	24.231	.258	29.926
	53	Nadir 2h. 35m.		3	- -	269 59 57.4	62.7	58.4	58.8	62.8	52.5	58.77	29.759	.776	- -
	54	O. Arg. S, 1930	7.7	5	I–IX alt.	145 14 59.6	67.1	61.7	60.4	67.1	54.8	61.78	28.363	.392	29.924
	55	Melpomene		1	V.	126 29 59.2	66.8	61.1	60.3	66.2	53.6	61.20	35.264	.291	- -
	56	B. A. C. 1054	6	5	III–VII.	154 54 57.8	65.5	61.2	60.6	65.5	54.1	60.78	27.467	.482	29.928
	57	Lacaille 1121	8	5	I–IX alt.	157 14 56.9	64.5	60.6	60.6	65.2	52.8	60.10	29.813	.829	- -
	58	Anon. 3h. 30m. 22s.	7.5	1	V.	147 54 59.6	66.6	63.6	61.9	66.2	54.5	62.07	35.253	.280	- -
	59	Lacaille 1231	6.2	1	V.	155 39 58.1	65.2	61.1	60.6	65.9	53.3	60.70	36.494	.503	29.928
	60	Lacaille 1284		5	III–VII.	155 9 57.6	65.4	61.0	60.7	65.9	52.6	60.53	27.290	.320	- -
	61	Lacaille 1329		5	I–IX alt.	" " "	"	"	"	"	"	"	39.209	.248	29.936
	62	B. A. C. 1327		5	III–VII.	168 4 58.0	64.0	61.4	62.5	65.0	52.5	60.57	34.821	.836	- -
	63	Anon. 4h. 17m. 43s.	7.8	5	I–IX alt.	154 34 58.5	66.0	61.7	61.1	66.4	53.5	61.20	31.969	.999	- -
	64	Hebe	9	3	II, V, & IX.	126 29 57.4	65.4	59.5	59.8	64.5	52.3	59.82	34.886	.900	29.939
	65	*ε* Ursæ Minoris, S. P.		5	5–1.	31 9 57.9	66.1	62.2	63.2	65.2	54.4	61.50	28.848	.860	29.942

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	19.0	16.5	29.912	— 2 51.3	+ 1 48.5	61 34 1.3	— 22 56 41.4		Ha.	
2	. .	. .	. .	13.9	1 51.1	62 6 40.0				Sun's limb totally undefined and very tremulous.
3	21.5	15.1	. .	— 21.9	45.0	35 20 23.8	+ 3 33 15.4	— 57.7		
4	. .	. .	. .	0.0	49.6	38 0 51.0	0 52 48.2	55.4		Observed for Melpomene.
5										
6	21.0	14.0	. .	+ 1 10.8	17.6	15 31 28.6	23 22 10.6			A very bad night. Stars exceedingly blurred and unsteady.
7	29.5	25.1	29.882	— 48.7	32.4	117 44 42.5	11 8 56.7			
8	. .	. .	. .	— 2 43.5	16.8	105 12 34.5	23 41 4.7	50.2		January 4. The telescope moved around the circle till the zenith-reading was 90°. The focus was then adjusted by lengthening the space between the object-glass and the eye-piece by 0.031 inch.
9	. .	. .	. .	+ 6 57.7	17.0	105 22 16.0	23 31 23.2	49.6		
10	. .	. .	. .	— 2 38.9	16.8	105 12 39.1	23 41 0.1	49.2		
11	. .	. .	. .	+ 12.3	16.9	105 15 30.5	23 38 8.7	48.6		
12	. .	. .	. .	— 4 50.2	16.8	105 10 27.8	23 43 11.4	48.7		
13	30.0	23.6	. .	+ 5 24.9	17.0	105 20 43.2	+ 23 32 56.1	48.1		
14	. .	. .	. .	— 3 44.6	+ 1 21.3	142 47 36.0	— 13 53 56.7	35.4		
15	29.5	23.0	. .	+ 45.0	— 25.9	247 20 20.3	+ 16 13 59.5	29.8		Image exceedingly blurred.
16	. .	. .	. .	— 46.5	+ 25.9	112 39 40.0	16 13 59.3	29.8		
17										
18	29.0	22.0	. .	— 2 36.5	— 7.6	83 2 16.2	45 51 53.0	19.5		January 6. Examined level and collimation, and found the errors very small. Changed them somewhat; probably over-correcting collimation. Mic. A taken out and cleaned.
19	. .	. .	. .	— 52.7	+ 11.4	100 24 19.2	28 29 20.1	12.3		
20	29.0	21.9	. .	+ 1 32.9	17.1	105 31 52.3	+ 23 21 46.9			
21	. .	. .	29.803	+ 2 8.9	1 42.9	150 53 52.5			N.	
22	30.5	22.1	. .	— 17.0	1 45.3	151 26 29.8	— 22 16 31.9			Both limbs very unsteady.
23	30.2	23.7	. .	+ 1 12.5	1 32.0	148 17 42.3	— 19 24 4.1			Good observation.
24										
25	. .	. .	. .	— 21.3	+ 43.8	125 20 23.9	+ 3 33 15.3	57.1		Steady. Cloudy.
26	23.5	22.0	. .	+ 1 47.5	. .	117 32 20.6	11 21 18.6			
27	. .	. .	. .	1 8.5	— 11.4	79 30 59.9	49 22 39.3	— 64.3		
28	23.3	21.7	. .	+ 2.2	2 38.0	21 12 25.4	72 18 46.2	+ 67.9		
29	. .	. .	. .	— 2 20.2	9.2	81 32 30.5	47 21 8.7	— 57.4		
30	. .	21.4	. .	+ 19.7	— 54.6	48 34 26.1	80 19 13.1	57.4		Uncertain. Exceedingly faint.
31	. .	. .	. .	+ 49.4	+ 19.2	107 10 9.3	21 42 30.0	42.6		
32	. .	. .	. .	— 4 37.0	27.1	113 35 50.7	+ 15 17 48.5	35.4		Clouds.
33	20.0	19.8	29.777	3 29.1	1 45.8	151 18 18.4	— 22 8 19.7		Ha.	
34	. .	. .	. .	— 6 5.0	1 43.4	150 45 39.4				
35										
36	21.5	15.5	. .	+ 1 47.1	32.8	117 32 19.6	+ 11 21 19.6	57.4		
37	. .	. .	. .	— 2 42.0	32.7	117 27 50.3	+ 11 25 48.9			
38	. .	. .	. .	2 54.5	1 39.9	147 53 46.2	— 19 0 7.0	40.4		
39	. .	. .	. .	— 2 44.6	17.1	105 12 35.7	+ 23 41 3.5	50.3		
40	. .	. .	. .	+ 6 56.8	17.3	105 22 17.3	23 31 21.9	49.7		
41	. .	. .	. .	— 2 40.9	17.1	105 12 39.5	23 40 59.8	49.3		
42	. .	. .	. .	+ 9.6	17.2	105 15 30.1	23 38 9.2	48.8		
43	21.0	16.0	. .	— 4 51.9	17.1	105 10 28.5	23 43 10.8	48.8		
44	20.5	14.1	. .	4 30.8	47.3	126 51 17.6	2 2 21.6			Exceedingly faint. Bisection uncertain.
45										
46	20.0	13.5	. .	2 58.2	17.5	105 32 22.8	+ 23 21 16.4			
47	24.5	16.1	29.806	2 5.5	1 31.0	147 44 24.4	— 18 50 35.3		N.	
48	. .	. .	. .	— 2 25.1	1 31.0	147 44 4.9				
49	.	. .	. .	+ 1 10.0	1 39.3	150 27 50.9	21 50 29.5			
50	27.5	29.1	. .	— 1 15.4	1 41.7	151 0 26.6				
51	30.5	32.3	. .	— 34.0	1 24.8	146 55 51.1	18 2 11.9			
52	30.4	25.3	. .	+ 2 53.8	1 26.3	144 44 20.2	15 50 40.9	58.3		
53										
54	29.5	23.5	. .	+ 44.3	1 28.4	145 17 14.5	— 16 23 35.3	51.8		
55	. .	. .	. .	— 2 51.8	45.3	126 27 54.6	+ 2 25 44.6			Uncertain by 2″ or 3″. Very faint.
56	29.7	23.8	. .	+ 1 12.8	2 10.6	154 58 24.2	— 26 4 45.0	42.4		
57	. .	. .	. .	— 0.7	2 25.6	157 17 25.0	28 23 45.8	39.4		
58	. .	. .	. .	2 51.5	1 37.6	147 53 48.1	19 0 8.9	40.1		
59	28.3	23.4	. .	— 3 29.8	2 14.8	155 38 45.6	26 45 6.4	34.7		
60	. .	. .	. .	+ 1 17.9	2 12.4	155 13 30.8	26 19 51.6	32.4		
61	28.0	22.5	. .	— 4 55.8	2 11.9	155 7 16.6	26 13 37.3	30.0		
62	. .	. .	. .	2 37.6	4 44.8	168 7 7.7	39 13 28.5	23.2		
63	. .	. .	. .	1 8.7	2 9.3	154 36 1.8	— 25 42 22.6	— 23.8		
64	27.0	21.0	. .	— 2 39.6	+ 45.6	126 28 5.8	+ 2 25 33.4			
65	26.0	20.5	. .	+ 29.6	— 1 41.9	31 8 49.2	+ 82 15 9.9	+ 28.3		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Jan. 11	1	β Tauri		4	I–IV.	100 24 57.6	65.4	61.2	61.2	63.9	53.6	60.48	31.448	.432	. .
	2	β Tauri, (Ref.)		1	IX.	259 34 57.2	63.6	60.6	61.5	64.0	53.4	60.05	28.080	.154	. .
	3	Uranus		5	I–IX alt.	105 29 57.1	68.0	62.4	62.6	66.6	54.8	61.92	25.326	.341	. .
	4	Nadir 5h. 40m.		3	. .	269 59 56.2	64.0	59.2	60.5	62.5	51.6	59.00	29.748	.765	. .
	5	Venus S. L.		2	VI & VIII.	147 54 56.8	64.9	59.3	59.7	61.6	51.0	58.88	27.635	.665	29.972
	6	Venus N. L.		2	VII & IX.	" " "	"	"	"	"	"	"	28.200	.268	. .
12	7	Sun N. L.		4	I–IV.	150 19 57.0	66.8	61.9	61.8	65.4	51.9	60.80	36.160	.189	. .
	8	Sun S. L.		4	VI–IX.	150 49 56.9	66.6	62.0	61.1	66.0	51.7	60.72	31.295	.338	29.932
	9	Vesta		1	III.	117 14 56.6	65.2	57.0	58.2	62.9	51.9	58.63	32.303	.313	29.874
	10	Nadir 3h. 22m.		5	. .	269 59 56.4	63.7	58.2	59.0	63.0	52.9	58.87	29.774	.789	. .
	11	η Tauri	6	4	I–IV.	105 14 56.5	66.9	60.2	60.6	65.5	54.0	60.62	34.875	.860	. .
	12	24 Tauri	9	4	VI–IX.	" " "	"	"	"	"	"	"	36.106	.136	. .
	13	27 Tauri	7	3	III–V.	" " "	"	"	"	"	"	"	29.430	.435	. .
	14	28 Tauri	7.5	4	VI–IX.	" " "	"	"	"	"	"	"	39.012	.039	29.864
	15	α Tauri, (Ref.)		2	III & IV.	247 19 57.0	64.0	60.2	62.0	64.4	54.4	60.33	28.432	.440	29.838
	16	α Tauri		2	VIII & IX.	112 39 57.5	68.0	60.9	61.6	66.0	54.6	61.43	31.230	.267	. .
	17	Uranus		5	III–VII.	105 34 57.8	81.1	65.2	72.0	76.9	58.8	68.63	34.974	.989	29.824
	18	Nadir 5h. 35m.		3	III–V.	269 59 55.8	75.8	61.2	67.7	72.3	54.2	64.50	29.995	.010	. .
14	19	Sun S. L.		4	I–IV.	150 29 54.8	54.2	55.8	55.3	56.3	51.2	54.60	31.504	.514	29.934
	20	Sun N. L.		4	VI–IX.	149 59 54.5	58.3	54.1	54.6	58.0	50.0	54.92	36.329	.370	. .
	21	Nadir		3	. .	269 59 60.0	64.8	60.0	57.8	65.7	56.0	60.72	29.749	.765	. .
15	22	Moon S. L.		3	I, V, & IX.	117 24 60.5	64.1	61.5	56.5	60.0	59.7	60.38	27.765	.771	29.862
	23	Nadir 1h. 50m.		3	. .	269 59 60.6	62.9	60.5	58.3	61.9	60.1	60.72	29.820	.835	. .
	24	Venus S. L.		5	I–IX alt.	148 44 60.4	67.0	63.0	62.5	60.0	55.5	61.40	30.196	.232	30.208
	25	Venus N. L.		4	II–VIII alt.	" " "	"	"	"	"	"	"	30.796	.809	. .
16	26	Sun N. L.		3	II–IV.	149 34 59.9	65.8	62.8	62.8	60.5	57.1	61.48	30.945	.963	30.232
	27	Sun S. L.		4	VI–IX.	150 4 60.0	66.1	62.9	61.4	60.9	56.7	61.33	25.963	.997	. .
	28	Lalande 3979	6	1	V.	147 14 59.7	64.7	61.5	59.2	60.0	58.5	60.60	24.755	.759	30.320
	29	O. Arg. S. 1522	7	5	III–VII.	147 49 57.9	62.1	60.8	57.6	58.8	56.3	58.92	29.006	.029	. .
	30	Moon S. L.		5	III–VII.	113 39 58.6	64.0	60.6	58.9	61.0	57.1	60.03	26.996	.014	. .
	31	Weisse II, 615	9	5	III–VII.	116 9 60.8	66.0	61.5	59.0	60.7	59.8	61.30	28.924	.937	30.340
	32	Weisse II, 702	9	1	V.	116 29 60.9	65.6	61.8	60.0	60.9	60.0	61.53	39.290	.316	. .
	33	Weisse II, 841	9	1	V.	115 34 61.0	66.8	62.6	60.3	62.9	61.9	62.58	36.956	.973	30.348
	34	17 Tauri	6	5	III–VII.	105 14 61.0	67.8	64.3	62.8	64.1	61.8	63.63	35.058	.078	. .
	35	7 Pleiadum	9	1	V.	" " "	"	"	"	"	"	"	26.800	.807	. .
	36	23 Tauri	7	1	V.	" " "	"	"	"	"	"	"	16.498	.506	. .
	37	η Tauri		3	IV–VI.	" " "	"	"	"	"	"	"	34.913	.927	. .
	38	24 Tauri	8	1	IX.	" " "	"	"	"	"	"	"	36.014	.131	. .
	39	27 Tauri		1	V.	" " "	"	"	"	"	"	"	29.461	.474	. .
	40	28 Tauri		1	VII.	" " "	"	"	"	"	"	"	39.059	.089	. .
	41	B. A. C. 1195	8	1	V.	" " "	"	"	"	"	"	"	19.448	.461	30.356
	42	Nadir 3h. 55m.		3	. .	269 59 61.0	65.1	61.6	61.9	61.5	60.5	61.93	29.856	.871	. .
	43	Hebe	9	1	V.	125 34 61.0	68.8	63.9	62.5	63.4	59.8	63.23	42.836	.846	30.354
	44	α Aurigæ		5	III–VII.	83 4 61.8	69.0	66.0	65.5	65.2	61.2	64.78	34.977	.989	. .
	45	Uranus		5	III–VII.	105 34 60.0	69.9	64.5	64.0	64.7	60.8	63.98	33.882	.892	30.348
19	46	Venus, centre		5	I–IX alt.	149 24 58.5	62.7	60.8	59.8	57.9	54.7	59.07	28.124	.159	30.079
20	47	Nadir 1h. 25m.		3	. .	269 59 60.2	63.4	61.2	59.4	60.9	58.4	60.58	29.813	.828	. .
	48	*o* Piscium		5	I–IX alt.	120 24 60.5	64.9	61.9	59.3	61.0	58.1	60.95	30.433	.444	30.148
	49	O. Arg. S. 1146	8.5	2	IV & VI.	155 24 61.0	64.7	63.8	60.8	61.9	58.6	61.80	36.517	.526	. .
	50	O. Arg. S. 1245		1	V.	155 9 60.2	64.7	62.8	59.5	62.2	58.6	61.33	31.565	.568	. .
	51	α Draconis, S. P.		5	VII–III.	13 59 59.1	64.5	61.9	60.5	59.5	57.2	60.45	32.086	.126	30.145
	52	4 Ursæ Minoris, S. P.		3	5, V, I.	27 4 59.4	65.2	63.4	62.8	61.3	58.5	61.77	27.219	.246	30.150
	53	O. Arg. S. 1551	6	5	I–IX alt.	144 49 59.1	62.6	60.3	56.9	59.8	56.5	59.20	30.562	.573	. .
	54	Anon. 2h. 26m. 25s.	7.3	5	III–VII.	162 4 59.5	63.5	62.7	60.6	59.5	57.9	60.62	33.084	.113	. .
	55	O. Arg. S. 1738	7.5	3	IV–VI.	153 34 59.5	63.4	62.5	59.9	59.2	56.8	60.22	29.700	.703	. .
	56	β Fornacis	4	3	VII–IX.	161 49 61.4	65.4	65.4	62.8	61.4	60.1	62.75	30.711	.752	30.166
	57	Weisse II, 976		1	I.	114 54 60.7	67.1	63.5	61.2	62.5	60.9	62.65	26.169	.159	. .
21	58	Sun S. L.		4	I–IV.	149 4 60.0	62.9	59.7	58.8	58.6	56.5	59.42	29.120	.150	30.340
	59	Sun N. L.		4	VI–IX.	148 34 60.2	63.9	61.6	59.0	59.6	57.0	60.22	34.132	.172	. .
	60	Nadir 21h. 10m.		3	. .	269 59 60.3	64.3	60.8	60.0	61.6	59.5	61.08	29.836	.851	. .
	61	Nadir		4	. .	269 54 59.2	61.9	59.9	57.6	59.3	56.8	59.12*d*	20.184	.204	. .
	62	Nadir		4	. .	269 59 59.4	62.9	60.5	58.7	60.5	57.8	59.97	29.806	.818	. .
	63	Nadir		4	. .	" " 59.0	63.6	60.0	58.9	60.5	57.9	59.98	29.806	.817	. .
	64	Nadir		4	. .	270 4 58.8	63.5	60.5	59.5	61.6	58.7	60.44*d*	39.389	.404	. .
	65	Nadir		4	. .	" " 58.8	63.8	60.4	59.6	61.4	58.6	60.44*d*	39.391	.406	. .

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.806	— 50.9	+ 11.4	100 24 20.9	+ 28 29 18.3	— 12.4	N.	
2	. .	. .	. .	+ 51.7	— 11.4	259 35 40.3	28 29 19.6	12.4		
3	. .	. .	. .	2 19.9	+ 17.1	105 32 38.9	+ 23 21 0.3			
4										Image unsteady.
5	27.0	16.1	29.825	1 7.7	1 31.8	147 57 38.3	— 19 3 49.6		Ha.	
6	. .	. .	. .	+ 48.8	1 31.7	147 57 19.3				
7	. .	. .	. .	— 3 19.4	1 38.1	150 18 19.5	— 21 40 57.4			Could not get a good Nadir.
8	28.0	31.0	. .	47.4	1 40.4	150 50 53.7				
9	30.5	25.8	. .	1 18.0	31.4	117 14 12.0	+ 11 39 27.2			Clouds intervening.
10										
11	. .	. .	. .	2 37.8	16.6	105 12 39.4	23 40 59.8	49.4		
12	. .	. .	. .	— 3 17.7	16.6	105 11 59.5	23 41 39.7	49.3		
13	. .	. .	. .	+ 12.2	16.7	105 15 29.5	23 38 9.7	48.8		
14	30.0	24.2	. .	— 4 48.7	+ 16.6	105 10 28.5	23 43 10.7	48.8		
15	29.0	22.5	. .	+ 43.4	— 25.6	247 20 18.1	16 13 57.4	29.7		
16	. .	. .	. .	— 45.2	+ 25.6	112 39 41.8	16 13 57.4	29.7		A very bad, cloudy night. Stars quite steady.
17	28.5	23.0	29.866	2 40.5	16.9	105 32 45.0	+ 23 20 54.2			
18										Noticed a great change in the circle reading, and, on examination, found end screw of axis loose; tightened it. Ha.
19	32.5	34.8	29.742	55.5	1 38.1	150 30 37.2	— 21 20 41.0			
20	. .	. .	. .	— 3 27.7	+ 1 35.9	149 58 3.1				January 15. Tightened the screws of Mic. A and adjusted some of the others, so as to make the readings more nearly equal.
21										
22	39.8	41.2	29.810	+ 1 3.9	— 41 31.8	116 44 32.4	+ 12 9 6.8		N.	Good observation.
23										Wires of E slackened by damp.
24	31.5	29.7	. .	— 13.2	+ 1 33.0	148 46 21.2	— 19 52 33.0		Ha.	
25	. .	. .	. .	31.3	1 33.0	148 46 3.1				
26	35.5	35.0	. .	— 36.1	1 35.4	149 36 0.7	20 58 40.3			
27	. .	. .	. .	+ 1 59.5	1 37.6	150 8 38.4				Could not get a Nadir.
28	38.0	30.9	. .	2 38.3	1 35.1	147 19 14.0	18 25 34.8	62.4		
29	. .	. .	. .	24.5	+ 1 37.3	147 52 0.7	— 18 58 21.5	59.1		
30	. .	. .	. .	1 27.6	— 37 38.8	113 3 48.8	+ 15 49 50.4			
31	37.5	29.8	. .	+ 27.3	+ 30.2	116 10 58.8	12 42 40.4	64.8		
32	. .	. .	. .	— 4 57.9	30.5	116 25 34.1	12 28 5.1	63.4		
33	37.0	29.5	. .	3 44.4	29.4	115 31 47.5	13 21 51.7	61.7		
34	. .	. .	. .	— 2 45.1	16.8	105 12 35.3	23 41 3.9	50.1		Tried to observe Melpomene, but could not; too faint.
35	. .	. .	. .	+ 1 34.1	16.8	105 16 54.5	23 36 44.7	49.7		
36	. .	. .	. .	+ 6 56.8	16.9	105 22 17.3	23 31 21.9	49.5		
37	. .	. .	. .	— 2 40.3	16.8	105 12 40.1	23 40 59.1	49.2		
38	. .	. .	. .	— 3 18.1	16.7	105 12 2.2	23 41 37.0	49.2		
39	. .	. .	. .	+ 10.5	16.8	105 15 30.9	23 38 8.3	48.6		
40	. .	. .	. .	— 4 50.7	16.7	105 10 29.6	23 43 9.6	48.6		
41	36.0	28.4	. .	+ 5 24.3	16.9	105 20 44.8	23 32 54.4	48.0		
42										
43	35.5	27.9	. .	— 6 48.5	+ 43.9	125 28 58.6	3 24 40.6			Faint observation; uncertain.
44	. .	. .	. .	2 42.3	— 7.5	83 2 14.9	45 51 24.3	20.9		
45	34.5	26.0	. .	— 2 7.9	+ 17.1	105 33 13.1	+ 23 20 26.1			
46	38.4	33.3	. .	+ 51.7	1 34.6	149 27 25.3	— 20 33 46.1		N.	
47	. .	. .	29.810							
48	40.8	37.5	. .	— 19.9	35.3	120 25 16.3	+ 8 28 22.9	76.0		
49	. .	. .	. .	3 30.4	2 10.3	155 23 41.7	— 26 30 2.5	63.0		Faint.
50	. .	. .	. .	55.1	+ 2 9.0	155 11 15.2	— 26 17 36.0	— 61.3		
51	40.6	37.8	. .	— 1 12.6	— 3 57.0	13 54 50.8	+ 65 1 11.5	+ 92.6		
52	. .	37.6	. .	+ 1 20.3	— 1 56.9	27 4 25.1	+ 78 10 45.8	+ 90.9		
53	. .	. .	. .	— 23.9	+ 1 25.3	144 51 0.6	— 15 57 21.4	— 59.0		Entire number of rev. not observed.
54	. .	. .	. .	— 1 43.5	3 4.3	162 6 21.4	33 12 42.2	52.5		
55	. .	. .	29.816	+ 3.5	2 1.0	153 37 4.7	24 43 25.5	52.8		
56	. .	34.9	. .	— 29.4	3 2.0	161 52 35.3	— 32 58 56.1	48.3		
57	. .	. .	. .	+ 1 54.6	28.2	114 57 25.4	+ 13 56 13.8	— 59.6		
58	41.5	37.5	. .	+ 20.9	1 33.2	149 6 53.5	— 19 56 55.0		Ha.	Limb very much blurred and unsteady.
59	. .	. .	. .	— 2 16.5	+ 1 31.2	148 34 14.9				
60										
61									N.	These Nadirs were observed between 9 and 10 o'clock mean time, in order to determine the value of a revolution of the micrometer screw.
62										
63									Ha.	
64									N.	
65									Ha.	

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wives.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Jan. 21	1	Nadir		3		269 54 60.3	64.7	61.1	60.0	62.1	58.8	61.17	20.256	.281	
	2	Nadir		4		" " 60.0	65.1	60.8	60.0	61.8	59.4	61.18	20.267	.285	
22	3	Sun N. L.		4	I–IV.	148 19 58.5	61.6	61.2	58.1	57.8	55.3	58.75	31.118	.148	
	4	Sun S. L.		4	VI–IX.	148 49 59.3	62.2	58.3	57.0	58.0	54.2	58.17	26.218	.258	30.224
	5	α Draconis, S. P.		3	VI–IV.	13 59 60.7	63.9	62.9	58.5	60.6	58.1	60.78	32.233	.266	30.182
	6	Nadir 2h. 12m.		4		269 59 60.3	61.2	60.7	57.5	60.1	58.9	59.78	29.788	.804	
	7	5 Ursæ Minoris, S. P.		3		25 14 60.6	63.1	63.7	60.1	59.8	58.2	60.92	32.797	.911	30.184
	8	Weisse II, 724	8.5	1	V.	115 44 59.2	61.7	59.7	55.9	59.7	59.9	59.35	30.865	.877	
	9	β Ursæ Minoris, S. P.		3	VI–IV.	23 39 59.4	62.4	62.4	59.9	61.0	58.7	60.63	33.199	.237	30.188
	10	Vesta	8.5	4	I–VII alt.	116 24 59.5	61.7	59.5	55.6	58.3	58.2	58.80	33.606	.598	
	11	Lacaille 1124	7.3	1	V.	154 59 60.7	62.8	62.3	58.4	60.4	59.5	60.68	36.828	.837	30.199
	12	B. A. C. 1119		1	IX.	112 49 60.8	63.1	61.8	59.3	60.7	60.5	61.03	34.285	.322	
	13	ζ Persei		5	I–IX.	97 24 59.1	64.2	62.8	59.6	60.5	60.1	61.05	30.221	.233	
	14	B. A. C. 5406, S. P.		5	VII–III.	17 4 60.0	63.5	64.2	62.0	61.3	58.1	61.52	26.503	.530	30.206
	15	Weisse N. IV. 270	7.0	1	V.	110 49 60.4	63.3	60.1	58.4	59.0	58.3	59.92	34.116	.141	
	16	η Ursæ Minoris, S. P.		5	VII–III.	24 59 59.8	64.1	64.1	62.6	60.0	57.5	61.35	30.609	.641	
	17	Lacaille 1509		1	V.	154 44 62.2	64.9	64.9	60.3	61.9	60.5	62.45	34.447	.460	30.202
	18	Uranus		5	I–IX alt.	105 34 58.7	65.5	62.9	60.5	61.9	59.0	61.42	32.457	.458	
	19	Nadir 7h. 35m.		3		269 59 59.6	63.4	61.9	60.0	59.8	57.5	60.37	29.802	.818	
	20	Moon N. L.		4	I–IV.	111 59 59.7	65.6	62.5	61.9	59.9	58.8	61.40	27.266	.142	
	21	Moon S. L.		4	VI–IX.	112 29 58.4	63.3	61.5	60.0	59.0	56.8	59.83	27.038	.196	30.218
	22	λ Ursæ Minoris, S. P.		3	2–1.	37 49 60.6	65.4	65.3	64.8	61.9	60.4	63.07	31.480	.494	
	23	Venus S. L.		5	I–IX alt.	149 49 61.3	68.2	65.1	65.1	62.1	58.2	63.33	26.975	.003	30.260
	24	Venus N. L.		4	II–VIII alt.	" " "	"	"	"	"	"	"	27.492	.507	
23	25	Sun S. L.		3	VII–IX.	148 34 61.2	65.0	62.8	61.1	60.2	57.8	61.35	24.133	.187	30.210
	26	O. Arg. S. 5343	8.5	1	V.	152 54 59.0	60.9	60.0	57.1	58.4	58.3	58.95	34.522	.528	30.004
	27	α Canis Majoris		5	III–VII.	145 24 59.8	62.2	59.2	55.3	60.2	58.8	59.25	30.971	.992	
	28	Lacaille 2461	8.0	1	IV.	152 49 60.0	62.4	62.5	58.3	60.0	59.6	60.47	27.269	.291	
	29	Lacaille 2462	7.0	1	V.	" " "	"	"	"	"	"	"	35.061	.084	
	30	Lacaille 2684	7.5	3	IV–VI.	152 19 61.0	64.1	62.4	59.1	61.8	60.7	61.52	25.592	.595	29.986
	31	Lacaille 2792	7.0	5	III–VII.	153 39 61.1	63.7	62.0	59.0	60.0	59.8	60.93	12.735	.741	
	32	Anon. 7h. 24m. 26s.	8.0	1	V.	" " "	"	"	"	"	"	"	22.605	.607	
	33	α Canis Minoris		4	III–VI.	123 19 60.4	64.2	61.8	57.9	60.0	60.0	60.72	31.849	.860	
	34	Lacaille 2929	8.0	3	IV–VI.	153 59 59.0	61.2	60.6	56.0	58.5	56.2	58.58	24.541	.547	29.976
	35	Nadir 8h. 4m.		5		269 59 60.4	62.7	60.7	58.0	60.6	60.4	60.47*d*	29.830	.839	
	36	B. A. C. 2811	6.5	5	III–VII.	154 49 59.8	62.6	60.4	57.0	60.0	58.0	59.63	36.294	.324	
	37	Moon S. L.		4	I–IV.	115 34 60.0	63.8	60.6	57.3	61.0	61.9	60.77	30.455	.291	
	38	Moon N. L.		4	VI–IX.	115 4 60.0	64.5	60.8	57.9	60.8	60.0	60.67	29.758	.928	
	39	Lacaille 3509	7.5	4	I–IV.	154 59 59.9	62.1	60.8	57.4	59.9	58.5	59.77	32.099	.120	
	40	Lacaille 3511	9.0	4	VI–IX.	" " "	"	"	"	"	"	"	30.342	.393	
	41	ι Ursæ Majoris	3.0	5	III–VII.	80 19 59.2	64.3	63.7	59.4	63.0	62.0	61.93	30.488	.488	29.950
24	42	α Ophiuchi		3	III–VII alt.	116 14 58.7	63.6	59.7	55.6	59.8	59.5	59.48	32.680	.680	
	43	Venus, centre		3	VII–IX.	150 4 58.7	62.8	61.0	56.9	60.0	57.5	59.48	28.202	.268	29.747
	44	α Lyræ		5	I–IX alt.	90 14 59.2	63.9	61.7	57.1	61.2	61.0	60.68	31.497	.485	
25	45	Nadir 2h. 10m.		3		269 59 60.1	55.2	57.2	49.8	57.9	59.9	56.68	29.644	.664	
	46	Nadir 2h. 10m.		3		269 59 59.9	57.2	58.2	50.7	56.8	59.4	57.03	"	"	
	47	5 Ursæ Minoris, S. P.		5	VII–III.	25 14 62.8	62.1	63.0	56.5	61.1	62.0	61.25	33.012	.064	29.804
	48	Weisse II, 746	9.2	3	III–VII alt.	115 59 61.8	60.5	59.3	53.5	59.9	63.1	59.68	34.845	.854	
	49	O. Arg. S. 1977	7.5	4	III,IV,V,VII	147 39 61.6	58.2	59.9	52.2	58.6		58.48	35.556	.561	29.792
	50	Lacaille 996		3	III–VII alt.	153 4 61.9	58.4	61.0	53.4	59.0	61.5	59.20	34.786	.796	
	51	Vesta		5	III–VII.	116 4 61.2	60.2	58.3	52.5	59.3	52.9	57.40	26.901	.913	
	52	γ Ursæ Minoris, S. P.		3	VI–IV.	21 14 61.2	59.9	61.1	56.2	61.5	61.8	60.28	30.094	.129	29.779
	53	B. A. C. 1119	6.8	5	I–IX alt.	112 49 61.1	59.3	58.8	53.0	59.4	62.1	58.95	34.101	.119	
	54	Weisse N. III, 878	9.0	3	III–VII alt.	112 39 61.2	60.3	58.9	53.1	59.9	62.3	59.28	36.772	.774	
	55	B. A. C. 1206	6.0	1		111 59 61.3	60.1	58.0	3.0	58.7	62.1	58.87	33.395	.423	
	56	Weisse N. III, 1015	9.0	1	VIII.	" " "	"	"	"	"	"	"	35.741	.755	
	57	Lacaille 1317		1	V.	155 49 64.7	63.9	63.0	56.9	60.7	62.4	61.93	38.175	.202	29.756
	58	Weisse N. IV, 248		3	II–VIII.	110 29 60.4	63.4	59.8	54.3	59.5	61.6	59.83	32.728	.725	29.753
	59	Weisse IV, 554		1	V.	123 39 62.6	64.3	62.3	56.5	61.2	65.9	62.13	37.088	.113	29.749
	60	α Aurigæ		5	I–IX.	82 59 64.0	66.5	66.1	62.3	65.5	68.1	65.42*d*	25.425	.415	29.744
	61	β Tauri		5	I–IX.	100 24 61.7	60.9	57.5	54.0	57.6	60.1	58.63	31.347	.357	29.741
	62	ε Orionis		3	II–VIII.	130 9 57.7	59.4	55.7	52.5	56.0	57.4	56.45	28.794	.802	29.738
	63	α Orionis		3	I–IX.	121 29 60.5	63.0	58.0	56.7	59.7	60.1	59.67	28.948	.963	29.730
	64	ν Orionis		3	I–IX.	114 4 62.8	65.4	62.3	59.5	61.5	63.2	62.45	27.122	.139	29.724
	65	η Geminorum		5	I–IX.	106 19 61.6	65.4	62.1	58.9	62.3	62.6	62.15	28.183	.199	29.721
	66	u Geminorum		4	I,III,VII,IX	106 19 61.9	65.6	61.8	59.0	61.6	63.0	62.15	32.438	.439	29.718

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1									N.	
2									Ha.	
3	. .	. .	29.816	— 41.7	+ 1 29.5	148 20 46.5 }	— 19 43 24.6		N.	
4	41.0	40.1	. .	+ 1 51.5	+ 1 31.5	148 53 21.1 }				
5	43.5	40.0	. .	— 1 16.8	— 3 56.1	13 54 47.8	+ 65 1 8.6	+ 92.8		
6										
7	43.2	39.0	. .	1 37.0	— 2 6.7	25 11 17.2	76 17 38.0	+ 86.9		At 2h. 29m. 52s., 30m. 42s., and 31m. 25s.
8	. .	. .	. .	33.2	+ 28.9	115 44 55.0	13 8 44.2	— 63.0		
9	42.8	38.1	. .	1 47.2	— 2 16.5	23 35 56.9	74 42 17.7	+ 80.4		Very steady.
10	. .	. .	. .	1 58.5	+ 29.9	116 23 30.1	+ 12 30 9.1			
11	41.7	35.6	. .	3 40.0	2 8.6	154 58 29.2	— 26 4 50.0	— 38.0		
12	. .	. .	. .	2 21.2	25.4	112 48 5.2	+ 16 5 34.0	49.2		Cloudy.
13	. .	. .	. .	— 13.1	+ 7.9	97 24 55.8	31 28 43.4	— 49.4		Unsteady and blurred.
14	40.2	34.6	. .	+ 1 43.0	— 3 14.5	17 3 30.0	68 9 50.8	+ 54.3		
15	. .	. .	. .	— 2 15.5	+ 23.0	110 48 7.4	18 5 31.8	— 35.3		
16	. .	. .	. .	25.9	— 2 9.5	24 57 25.9	+ 76 3 46.7	+ 48.3		
17	39.7	33.5	. .	2 25.5	+ 2 7.8	155 44 44.7	— 25 51 5.5	— 18.3		
18	. .	33.3	. .	— 1 22.8	+ 16.8	105 33 55.4	+ 23 19 43.8			Cloudy; blurred.
19										
20	. .	. .	. .	+ 1 23.8	— 19 41.8	111 41 43.4 }	16 57 9.6			
21	36.2	31.5	. .	+ 1 22.1	20 6.1	112 11 15.8 }				
22	. .	. .	. .	— 52.6	— 1 18.4	37 47 52.0	+ 88 54 12.8	— 49.1		
23	34.5	32.5	. .	+ 1 28.2	+ 1 37.3	149 53 8.8 }	— 20 59 21.7		Ha.	
24	. .	. .	. .	1 12.4	+ 1 37.3	149 52 53.0 }				
25	41.5	43.6	. .	+ 2 56.4	— 14 47.4	148 23 10.3	19 29 31.0			
26	45.0	40.2	. .	— 2 27.7	+ 1 55.6	152 54 26.8	24 0 47.6	+ 24.5		
27	. .	. .	. .	36.8	1 26.0	145 25 48.4	16 32 9.2	26.8		
28	. .	. .	. .	+ 1 19.1	1 55.6	152 53 15.1	23 59 35.9	29.1		
29	. .	. .	. .	— 2 45.1	1 55.3	152 49 10.6	23 55 31.4	29.2		
30	44.5	38.5	. .	+ 2 12.2	1 53.5	152 24 7.2	23 30 28.0	37.8		
31	. .	. .	. .	8 55.0	2 0.9	153 50 56.8	24 57 17.6	40.9		
32	. .	. .	. .	+ 3 45.9	2 0.4	153 45 47.2	— 24 52 8.0	42.4		
33	. .	. .	. .	— 1 4.0	39.3	123 19 36.0	+ 5 34 3.2	43.7		
34	44.0	37.3	. .	+ 2 45.1	2 2.2	154 4 45.8	— 25 11 6.6	46.6		This is the imperfect limb. —4.″00 added for defective illumination.
35										
36	. .	. .	. .	— 3 23.9	+ 2 6.2	154 48 41.9	— 25 55 2.7	57.6		
37	. .	. .	. .	14.9	— 22 38.2	115 12 7.6 }	+ 13 56 15.6			
38	. .	. .	. .	3.5	— 22 17.5	114 42 39.6 }				
39	. .	. .	. .	1 12.2	+ 2 7.4	155 0 54.9	— 26 7 15.7	63.5		
40	. .	. .	. .	18.1	+ 2 7.5	155 1 49.1	— 26 8 9.9	63.6		
41	43.5	37.0	. .	21.1	— 10.2	80 19 30.6	+ 48 34 8.6	69.2		
42	. .	. .	29.778	— 1 31.0	+ 28.7	116 13 57.2	+ 12 39 42.1	+ 13.9	N.	
43	46.8	45.8	. .	+ 47.3	1 36.8	150 7 23.5	— 21 13 44.3			
44	. .	. .	. .	— 53.5	0.2	90 14 7.4	+ 38 39 31.8	— 9.0		
45										
46									H.*	* Prof. Asaph Hall.
47	58.0	53.1	. .	1 43.0	— 2 1.5	25 11 16.7	76 17 37.5	+ 87.2	N.	
48	. .	. .	. .	2 39.0	+ 28.0	115 57 48.6	+ 12 55 50.6	— 62.5		
49	57.0	51.8	. .	3 1.2	1 30.6	147 38 27.8	— 18 44 48.6	48.7		+0.″50 applied to mean of first 4 microscopes. Whole number rev. assumed.
50	. .	. .	. .	— 2 37.2	1 53.3	153 9 15.3	— 24 15 36.1	— 44.6		Micrometer read by A. Hall. C. R. recorded 153° 9′, and whole rev. not recorded.
51	. .	. .	. .	+ 1 29.8	+ 28.3	116 6 55.5	+ 12 46 43.7			
52	. .	50.0	. .	— 11.0	— 2 27.6	21 12 21.6	72 18 42.4	+ 71.4		
53	. .	. .	. .	2 16.0	+ 24.3	112 48 7.2	16 5 32.0	— 49.2		
54	. .	. .	. .	3 39.2	24.1	112 36 44.1	16 16 55.1	46.5		
55	. .	. .	. .	1 54.2	23.4	111 58 28.0	16 55 11.2	44.8		Hour angle + 1m. 15s. Mic. D recorded 63.″0.
56	. .	. .	. .	3 7.3	24.6	111 57 16.1	+ 16 56 23.1	44.4		
57	52.7	46.1	29.768	4 24.3	2 8.6	155 47 46.2	— 26 54 7.0	28.2	H.*	Faint and uncertain. * Prof. Asaph Hall.
58	52.0	45.8	. .	1 32.7	21.8	110 28 48.9	+ 18 24 50.3	35.7		
59	51.4	45.4	. .	— 3 50.1	+ 38.7	123 36 50.7	5 16 48.5	26.4		
60	50.3	44.8	. .	+ 2 16.4	— 7.1	83 2 14.7	45 51 24.5	22.0		
61	49.5	44.3	. .	— 49.8	+ 10.7	100 24 19.5	+ 28 29 19.7	13.1		
62	49.0	44.0	. .	+ 30.3	49.3	130 11 16.0	— 1 17 36.8	— 1.2		
63	48.1	42.9	. .	25.2	35.9	121 31 0.8	+ 7 22 38.5	+ 4.0		
64	47.8	42.6	. .	1 22.4	28.5	114 6 53.3	14 46 46.0	7.3		
65	47.6	42.4	. .	+ 49.2	17.2	106 21 8.5	22 32 30.7	7.6		
66	47.4	42.3	. .	— 1 23.7	+ 17.2	106 18 55.6	+ 22 34 43.6	+ 11.7		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Jan. 25	1	γ Geminorum		5	I–IX.	112 24 63.0	65.4	62.4	58.5	61.4	63.2	62.32	34.333	.349	29.718
	2	α Canis Majoris		3	II–VIII.	145 19 62.4	63.7	62.0	56.6	60.1	62.1	61.15	21.392	.416	29.713
	3	ε Canis Majoris		3	II–VIII.	157 39 65.0	65.2	64.7	61.3	61.8	63.7	63.62	32.063	.097	29.710
	4	δ Geminorum		5	I–IX.	106 39 66.0	70.7	68.3	64.4	65.6	68.5	67.25	30.543	.538	29.705
	5	Nadir		3		269 59 59.9	62.2	60.1	57.3	59.0	59.0	59.58	29.746	.764	
	6	Nadir				269 59 59.8	60.6	60.2	57.1	58.7	59.2	59.27			
	7	Lacaille 3086		3	III–VII.	170 49 59.4	61.6	64.3	59.8	57.9	58.1	60.18	28.507	.523	29.682
	8	Moon S. L.		1	VII.	123 14 58.8	62.2	62.4	58.2	57.6	57.5	59.45	24.411	.601	29.632
	9	Venus S. C.		5	I–IX.	150 14 58.8	60.9	61.1	57.9	57.1	57.9	58.95	34.849	.870	29.684
	10	Venus N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	35.394	.419	
26	11	Sun N. L.		4	I–IV.	147 24 59.9	57.2	57.8	51.3	55.0	56.8	56.33	35.640	.645	29.764
	12	Sun S. L.		4	VI–IX.	147 54 59.9	58.0	58.0	52.3	56.1	56.5	56.80	30.866	.890	
	13	17 Tauri	6.0	1	V.	105 14 59.9	62.2	60.9	56.0	60.2	60.8	60.00	34.899	.913	29.944
	14	1 Pleiadum	9.0	1	V.	" " "	"	"	"	"	"	"	26.099	.124	
	15	7 Pleiadum		1	V.	" " "	"	"	"	"	"	"	26.630	.631	
	16	23*d* Pleiadum	6.0	1	V.	" " "	"	"	"	"	"	"	16.349	.372	
	17	η Tauri	6.0	1	V.	" " "	"	"	"	"	"	"	34.790	.796	
	18	27 Tauri	7.0	2	I, IX.	" " "	"	"	"	"	"	"	29.326	.330	
	19	28 Tauri	4.0	1	V	" " "	"	"	"	"	"	"	38.936	.952	
	20	B. A. C. 1195	9.0	1	V.	" " "	"	"	"	"	"	"	19.263	.290	
	21	Weisse N. III, 1262	8.5	1	V.	111 34 59.8	62.4	59.8	56.9	58.6	60.8	59.72	28.612	.614	
	22	Weisse N. IV, 65	9.0	1	V.	111 24 59.7	63.0	59.5	56.0	59.0	59.1	59.39	30.980	.999	
	23	Weisse N. IV, 376	8.0	1	V.	110 19 61.1	63.8	61.2	57.2	60.9	60.3	60.75	29.389	.408	29.950
	24	Uranus		5	III–VII.	105 34 61.5	66.0	64.1	60.2	63.0	62.5	62.88	31.744	.745	29.960
	25	Nadir 5h. 35m.		3		269 59 60.2	61.0	59.6	57.5	58.1	60.1	59.42*d*	29.767	.783	
	26	α Orionis		5	III–VII.	121 29 61.0	63.2	61.6	57.9	59.4	59.0	60.35	28.970	.987	
	27	α Canis Majoris		3	IV–VI.	145 24 60.1	62.4	61.4	57.4	59.5	58.2	59.84	31.004	.025	29.980
	28	α Ophiuchi		5	I–IX.	116 14 60.8	66.5	64.3	63.6	58.5	59.5	62.20	32.784	.784	30.002
	29	α Lyræ		5	I–IX.	90 14 59.6	65.5	63.9	62.9	58.7	59.3	61.65	31.515	.502	
	30	α Aquilæ		5	I–IX.	120 19 58.9	63.5	61.8	60.5	58.3	56.7	59.95	25.356	.375	30.006
	31	Nadir 20h. 20m.		3		269 59 58.1	58.4	58.1	56.9	54.5	56.2	57.03	29.706	.725	
27	32	Sun S. L.		4	I–IV.	147 39 59.0	62.2	62.4	59.3	56.5	56.4	59.30	31.502	.514	
	33	Sun N. L.		4	VI–IX.	147 4 58.7	61.5	61.0	57.7	56.6	56.1	58.60	26.713	.727	29.985
	34	α Pegasi		5	I–IX.	114 24 58.5	64.0	61.8	59.1	58.9	59.7	60.33	30.559	.556	29.957
	35	Anon. 3h. 10m. 10s	9.0	1	V.	114 14 59.2	60.7	58.9	54.3	58.6	60.2	56.98	25.014	.035	29.996
	36	Weisse III, 173	6.7	1	VII.	" " "	"	"	"	"	"	"	35.651	.661	
	37	Nadir 3h. 40m.		3		269 59 60.0	55.9	57.1	51.0	57.2	58.8	56.67	29.687	.706	
	38	B. A. C. 1211, (Ref.)		2	IV, V.	311 24 60.4	57.9	59.6	49.4	57.2	57.0	56.92	30.142	.177	
	39	B. A. C. 1211	4.0	3	V–VII.	48 34 61.1	60.6	62.0	56.9	63.0	63.0	61.10	29.405	.404	30.008
	40	B. A. C. 5406, S. P.		5	VII–III.	17 4 61.2	59.8	63.0	56.7	60.1	59.4	60.03	26.808	.835	30.016
	41	η Ursæ Minoris, S. P.	5.0	5	VII–III.	24 59 61.4	60.9	63.4	57.7	59.5	60.0	60.48	30.837	.877	
	42	Hebe	9.0	3	III, V, VIII.	123 14 61.1	60.0	60.0	54.5	58.8	60.5	59.15	28.088	.111	30.023
	43	α Camelopardali	4.0	1	V.	62 49 61.9	61.9	62.8	57.9	62.0	64.5	61.83	34.494	.503	
	44	β Camelopardali	4.5	4	I–IV.	68 39 61.2	61.7	63.2	57.6	62.9	64.8	61.90	30.768	.715	
	45	β Camelopardali, (Ref.)		4	VI–IX.	291 19 61.3	58.9	61.1	51.6	59.9	58.7	58.58	28.911	.984	
	46	ε Ursæ Minoris, S. P.	5.0	5	VII–III.	31 9 61.5	61.4	63.4	59.0	62.3	62.0	61.60	29.165	.193	30.028
	47	Uranus		5	I–IX.	105 34 60.3	62.4	62.5	56.0	62.0	62.1	60.89	31.456	.457	
	48	α Orionis		4	I–IV.	121 29 60.9	60.1	59.8	54.3	58.3	59.0	58.73	28.898	.893	
	49	α Orionis, (Ref.)		4	VI–IX.	238 29 61.4	57.4	62.4	55.1	61.2	63.6	60.18	30.732	.755	30.037
	50	δ Ursæ Min., S.P. (Ref.)		4	5–1.	324 29 62.0	60.7	62.1	53.3	60.5	59.5	59.69	32.022	.041	30.037
	51	δ Ursæ Minoris, S. P.				35 29 62.2	62.6	63.6	59.6	62.1	62.1	62.03	27.546	.632	
	52	Nadir 6h. 35m.		3		269 59 61.6	60.3	61.0	54.9	60.9	60.5	59.87	29.773	.790	
	53	Venus N. L.		5	I–IX.	150 24 62.0	67.0	65.1	64.9	60.6	59.7	63.22	33.787	.803	30.174
	54	Venus S. C.		4	II–VIII.	" " "	"	"	"	"	"	"	33.270	.303	
28	55	Sun N. L.		4	I–IV.	146 54 60.3	63.0	59.4	58.3	57.8	59.0	59.63	37.384	.409	30.168
	56	Sun S. L.		4	VI–IX.	147 24 60.8	62.8	60.1	58.2	57.5	57.9	59.55	32.483	.504	
	57	Rumker 952	9.0	1	V.	105 14 60.7	64.1	61.5	58.1	62.0	62.9	61.55	36.974	.992	30.140
	58	17*b* Pleiadum	7.0	1	V.	" " "	"	"	"	"	"	"	34.892	.906	
	59	1 Pleiadum	9.0	1	V.	" " "	"	"	"	"	"	"	26.108	.133	
	60	7 Pleiadum	9.0	1	VI.	" " "	"	"	"	"	"	"	26.659	.666	
	61	23*d* Pleiadum	7.0	1	V.	" " "	"	"	"	"	"	"	16.308	.334	
	62	η Taur	6.0	1	V.	" " "	"	"	"	"	"	"	34.767	.772	
	63	27 Tauri	7.0	1	V.	" " "	"	"	"	"	"	"	29.342	.344	
	64	28 Tauri	7.0	1	V.	" " "	"	"	"	"	"	"	38.932	.948	
	65	B. A. C. 1195	9.0	1	V.	" " "	"	"	"	"	"	"	19.250	.277	
	66	Lacaille 1317	7.5	5	III–VII.	155 44 60.0	60.1	58.8	55.0	58.2	59.0	58.52	23.290	.320	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	*r.*	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	47.1	41.6	29.768	— 2 23.5	+ 24.2	112 23 3.0	+ 16 30 36.2	+ 19.0	H.	
2	46.7	40.9	. .	+ 4 21.7	1 25.1	145 25 47.9	— 16 32 8.7	27.2		
3	46.2	40.3	. .	— 1 13.0	2 22.2	157 41 12.8	— 28 47 33.6	33.0		
4	45.6	39.4	. .	— 24.1	17.6	106 40 0.7	+ 22 13 38.5	34.8		
5										
6									N.	
7	43.8	38.9	29.778	+ 39.3	+ 5 51.4	170 55 30.8	— 42 1 51.6	+ 51.0		Blurred.
8	44.4	39.0	. .	+ 2 42.2	— 43 35.6	122 34 6.0	+ 6 19 33.2			
9	49.0	55.7	29.802	— 2 38.8	+ 1 32.1	150 13 52.2	— 21 20 4.4		Ha.	
10	. .	. .	. .	2 56.0	1 32.1	150 13 35.0				
11	56.0	57.5	. .	3 3.1	1 21.4	147 23 14.6	— 18 45 51.0			
12	. .	. .	. .	34.1	1 23.2	147 55 45.9				
13	52.0	48.0	.	— 2 40.1	15.9	105 12 35.8	+ 23 41 3.4	— 50.1		
14	. .	. .	. .	+ 1 55.2	16.0	105 17 11.2	23 36 28.0	49.8		
15	. .	. .	. .	1 39.4	16.0	105 16 55.4	23 36 43.8	49.6		
16	. .	. .	. .	+ 7 0.8	16.1	105 22 16.9	23 31 22.3	49.2		
17	. .	. .	. .	— 2 36.5	15.9	105 12 39.4	23 40 59.8	49.1		
18	. .	. .	. .	+ 14.8	16.0	105 15 30.8	23 38 8.4	48.5		
19	. .	. .	. .	— 4 46.7	15.8	105 10 29.1	23 43 10.1	48.6		
20	. .	. .	. .	+ 5 29.4	16.0	105 20 45.4	23 32 53.8	47.9		
21	. .	. .	. .	+ 37.2	23.2	111 36 0.1	17 17 39.1	40.2		
22	. .	. .	. .	— 37.5	23.0	111 24 44.8	17 28 54.4	38.2		
23	52.0	44.5	. .	+ 12.3	21.8	110 20 34.8	18 33 4.4	— 33.8		Looked for Hebe, but it was too faint to observe.
24	50.0	42.1	. .	— 1 0.9	16.3	105 34 18.3	23 19 20.9			
25										
26	. .	. .	. .	+ 25.5	36.3	121 31 2.1	+ 7 22 37.1	+ 4.0		
27	48.0	38.5	. .	— 38.3	1 26.2	145 25 47.7	— 16 32 8.5	27.3		
28	40.3	37.4	29.820	1 32.9	29.5	116 13 58.8	+ 12 39 40.4	+ 14.3	N.	
29	. .	. .	. .	— 52.7	0.2	90 14 9.1	38 39 30.1	— 8.3		
30	44.5	46.3	. .	+ 2 19.3	34.4	120 22 53.6	+ 8 30 45.6	37.9		
31										
32	. .	. .	. .	— 53.1	1 24.4	147 40 30.6	— 18 30 35.1			
33	46.4	50.0	. .	+ 1 36.9	1 22.6	147 7 58.1				Good observation.
34	51.2	58.5	29.803	— 23.6	26.0	114 25 2.7	+ 14 28 36.5	84.6		
35	55.5	50.8	. .	+ 2 29.4	26.2	114 17 52.5	14 35 46.7	55.4		
36	. .	. .	. .	— 3 3.5	26.1	114 12 19.5	14 41 19.7	55.2		
37										
38	. .	. .	. .	— 11.7	+ 51.2	311 25 36.4	80 19 15.6	61.0		
39	55.0	51.1	. .	+ 12.5	— 51.2	48 34 22.4	80 19 16.8	— 61.0		
40	54.9	51.5	. .	+ 1 33.0	3 6.5	17 3 26.5	68 9 47.2	+ 55.5		Unsteady.
41	. .	. .	. .	— 33.6	— 2 4.2	24 57 22.6	76 3 43.3	+ 49.5		
42	54.6	51.0	. .	+ 53.0	+ 38.1	123 16 30.2	5 37 9.6			
43	. .	. .	. .	— 2 27.3	— 29.9	62 47 4.6	66 6 34.6	— 37.6		Very steady.
44	. .	. .	. .	— 28.6	— 22.8	68 39 10.5	60 14 28.7	— 31.9		
45	. .	. .	. .	+ 25.7	+ 22.8	291 20 47.0	60 14 26.2			Fine observation.
46	54.2	50.5	. .	+ 19.1	— 1 36.0	31 8 44.7	82 15 5.4	+ 33.4		
47	. .	. .	. .	— 51.8	+ 16.2	105 34 25.2	23 19 14.0			The diameter of the planet was 0.70 of the distance between wires, and the outline of the disk was well defined.
48	. .	. .	. .	+ 28.5	+ 35.8	121 31 3.0	7 22 36.2	+ 4.1		
49	53.6	48.8	. .	— 29.8	— 35.8	238 28 54.5	7 22 33.7			
50	53.1	46.1	. .	— 1 10.1	+ 1 22.1	324 30 11.6	86 36 9.1	— 1.3		Omitted wire 2.
51	. .	. .	. .	+ 1 8.0	— 1 22.1	35 29 47.9	86 36 8.6			Found level sensibly correct. Adjusted collimation January 27, 7h.
52										
53	42.5	42.3	29.802	— 2 5.4	+ 1 36.7	150 24 34.5	+ 21 31 3.2		Ha.	
54	. .	. .	. .	1 49.7	1 36.7	150 24 50.2				
55	50.0	57.4	. .	3 58.4	1 20.9	146 52 22.1	— 18 15 0.6			
56	. .	. .	. .	1 24.7	1 22.7	147 24 57.5				
57	55.0	54.8	. .	3 45.3	15.7	105 11 31.9	+ 23 42 7.3	50.1		
58	. .	. .	. .	— 2 39.9	15.8	105 12 37.4	23 41 1.8	50.0		
59	. .	. .	. .	+ 1 55.0	15.8	105 17 12.3	23 36 26.9	49.7		
60	. .	. .	. .	1 38.3	15.8	105 16 55.6	23 36 43.6	49.6		
61	. .	. .	. .	+ 7 2.0	15.9	105 22 19.4	23 31 19.8	49.2		
62	. .	. .	. .	— 2 35.8	15.8	105 12 41.5	23 40 57.7	49.0		
63	. .	. .	. .	+ 14.4	15.8	105 15 31.7	23 38 7.5	48.4		
64	. .	. .	. .	— 4 46.9	15.7	105 10 30.3	23 43 8.9	48.5		
65	. .	. .	. .	+ 5 29.8	15.9	105 20 47.2	+ 23 32 52.0	47.8		
66	. .	. .	. .	+ 46.4	+ 2 8.4	155 47 53.3	— 26 54 14.1	— 27.9		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Jan. 28	1	Anon. 3h. 57m. 54s.	9.0	1	V.	155 44 60.0	60.1	58.8	55.0	58.2	59.0	58.52	33.269	.296	30.136
	2	Nadir 4h. 11m. . .	- -	3	. .	269 59 59.6	56.1	57.1	52.1	56.9	59.8	56.93*d*	29.686	.704	. .
	3	Uranus	- -	5	III–VII.	105 34 59.1	62.7	60.1	56.8	60.8	61.1	60.10	31.229	.253	30.130
	4	Anon. 6h. 1m. 2s. .	8.0	5	III–VII.	152 24 59.5	59.9	59.9	55.8	57.6	58.4	58.52	32.178	.208	30.130
	5	Lacaille 2190 . .	7.5	5	III–VII.	152 39 59.4	60.1	60.0	56.0	57.9	59.0	58.73	26.267	.297	. .
	6	Lacaille 2226 . .	8.0	5	III–VII.	152 24 59.4	60.3	60.1	56.0	58.1	58.3	58.70	26.661	.665	30.128
	7	Venus, centre . .	- -	5	I–IX.	150 24 58.3	64.0	63.9	62.5	57.5	55.2	60.23	24.581	.594	30.122
	8	*α* Lyræ	- -	5	I–IX.	90 14 58.8	66.1	64.2	61.2	59.5	58.8	61.43	31.437	.431	. .
29	9	Sun S. L. . . .	- -	4	I–IV.	147 4 57.9	61.6	60.1	57.2	57.3	55.9	58.33	24.746	.755	30.205
	10	Nadir 2h. 50m. . .	- -	3	. .	269 59 57.9	54.2	55.8	51.0	55.0	57.8	55.28	29.599	.619	. .
	11	*β* Ursæ Minoris, S. P.	- -	4	IV–I.	23 39 59.4	58.5	60.5	56.1	58.9	60.0	58.90	33.239	.338	30.081
	12	*δ* Persei, (Ref.) . .	- -	2	I, IV.	278 24 60.5	57.2	58.2	52.1	57.7	60.1	57.63	25.164	.203	. .
	13	*δ* Persei	- -	3	VII–IX.	81 34 61.5	60.5	60.4	56.1	59.9	62.6	60.17	34.297	.308	. .
	14	Weisse N. III, 887 . .	- -	1	V.	112 19 60.4	59.4	57.5	54.9	58.1	60.9	58.53	28.125	.151	. .
	15	Lacaille 1231 . .	8.0	1	V.	155 34 58.9	57.1	57.8	53.0	55.7	57.4	56.65	26.380	.400	30.083
	16	Lacaille 1329 . .	- -	1	V.	155 4 59.4	58.5	58.8	53.5	57.3	59.5	57.83	29.245	.272	. .
	17	o^1 Eridani	- -	5	I–IX.	136 4 60.0	60.4	59.0	54.0	58.7	60.4	58.75	30.818	.830	. .
	18	δ^1 Tauri, (Ref.) . .	- -	4	I–IV.	248 19 61.0	57.5	61.1	56.6	60.2	63.2	59.93	29.892	.897	. .
	19	δ^1 Tauri	- -	4	VI–IX.	111 39 62.1	61.8	59.9	56.4	59.7	62.9	60.47	29.760	.774	. .
	20	*α* Tauri	- -	5	I–IX.	112 39 60.7	60.4	58.4	55.1	58.5	61.7	59.13	31.097	.115	. .
	21	*β* Camelopardali . .	- -	4	I–IV.	68 39 58.0	59.1	59.4	56.5	59.2	62.4	59.10	30.634	.577	. .
	22	*β* Camelopardali, (Ref.)	- -	3	VI, VIII, IX.	291 19 60.1	58.8	59.5	52.7	58.0	58.1	57.87	28.862	.939	30.080
	23	*β* Orionis, (Ref.) . .	- -	3	I, II, IV.	222 44 60.5	56.9	60.6	56.0	56.9	61.8	58.78	28.774	.758	. .
	24	*β* Orionis	- -	2	VIII, IX.	137 14 61.4	61.6	59.9	55.3	59.3	60.2	59.62	30.830	.867	. .
	25	Uranus	- -	5	I–IX.	105 34 60.5	62.9	60.8	57.3	61.4	61.9	60.80	31.094	.130	. .
	26	Nadir 5h. 35m. . .	- -	3	. .	269 59 61.9	60.0	60.3	56.6	59.6	62.2	60.10	29.775	.791	. .
Feb. 3	27	*β* Ursæ Minoris, S. P.	- -	4	IV–I.	23 39 61.8	66.5	65.5	67.6	60.7	61.6	63.95	33.231	.330	29.804
	28	O. Arg. S. 2189 . .	5.0	2	VII, IX.	147 54 60.4	62.2	62.7	60.4	56.1	57.1	59.82	28.716	.749	. .
	29	*ι* Draconis, S. P. . .	- -	5	VII–III.	8 24 59.6	64.0	63.5	64.1	58.5	56.2	60.98	27.226	.266	29.812
	30	Lacaille 1124 . .	- -	1	IX.	154 54 60.0	62.9	62.3	60.4	57.9	57.8	60.22	27.111	.185	. .
	31	16*g* Pleiadum	- -	3	III–VII.	105 4 60.4	66.2	64.5	63.8	60.4	60.3	62.60	35.998	.014	. .
	32	4 Pleiadum	- -	1	V.	" " "	"	"	"	"	"	"	41.565	.569	. .
	33	20*c* Pleiadum	- -	1	V.	" " "	"	"	"	"	"	"	45.315	.340	. .
	34	B. A. C. 1165 . .	7.7	1	V.	" " "	"	"	"	"	"	"	36.712	.714	. .
	35	B. A. C. 1171 . .	8.0	1	V.	" " "	"	"	"	"	"	"	43.588	.590	. .
	36	33 Pleiadum	8.5	1	V.	" " "	"	"	"	"	"	"	32.641	.642	. .
	37	O. Arg. S. 2663 . .	- -	1	V.	155 29 60.4	63.2	63.6	62.3	57.1	56.9	60.58	32.685	.687	. .
	38	Lacaille 1329 . .	7.0	1	V.	155 4 59.7	64.1	62.9	61.9	58.4	58.4	60.90	29.427	.442	. .
	39	Nadir 4h. 15m. . .	- -	3	. .	269 59 59.7	63.0	62.3	62.2	58.0	58.0	60.53	29.787	.803	. .
	40	Lacaille 1553 . .	7.8	1	V.	167 54 59.5	63.8	64.8	64.5	57.9	56.1	61.10	32.224	.251	. .
	41	Lacaille 1568 . .	8.2	1	V.	" " "	"	"	"	"	"	"	27.274	.301	. .
	42	Lacaille 1611 . .	8.0	3	IV–VI.	164 9 59.5	63.3	62.8	63.1	56.9	57.1	60.45	29.692	.696	. .
	43	Lacaille 1617 . .	- -	1	V.	" " "	"	"	"	"	"	"	28.250	.277	29.841
	44	Anon. 4h. 54m. 24s.	7.3	1	V.	154 9 59.5	63.9	62.9	61.9	55.9	56.4	60.08	34.581	.584	. .
	45	*ε* Ursæ Minoris, S. P.	- -	3	5–I.	31 9 60.1	66.1	66.0	67.5	59.7	58.5	62.98	29.062	.084	. .
	46	*β* Orionis	- -	5	I–IX.	137 14 59.7	65.3	62.4	62.7	57.5	56.5	60.68	30.868	.884	29.848
	47	Uranus	- -	5	I–IX.	105 34 60.2	67.8	66.1	66.2	60.8	60.1	63.53	30.335	.370	. .
4	48	Lacaille 996 . . .	7.0	5	III–VII.	153 9 58.8	61.0	60.5	59.0	57.5	57.1	58.98	34.841	.854	29.648
	49	Rumker 952 . . .	9.0	1	V.	105 14 60.1	66.2	62.0	61.4	62.0	60.8	62.08	37.050	.073	. .
	50	17*b* Pleiadum	5.0	1	V.	" " "	"	"	"	"	"	"	34.954	.971	. .
	51	1 Pleiadum	- -	1	V.	" " "	"	"	"	"	"	"	26.139	.166	. .
	52	23*d* Pleiadum	6.0	1	V.	" " "	"	"	"	"	"	"	16.396	.414	. .
	53	13 Pleiadum	9.0	1	V.	" " "	"	"	"	"	"	"	21.930	.946	. .
	54	*η* Tauri	5.0	1	V.	" " "	"	"	"	"	"	"	34.818	.827	. .
	55	27*f* Pleiadum	- -	4	I–IV.	" " "	"	"	"	"	"	"	29.406	.396	. .
	56	28*h* Pleiadum	7.5	4	VI–IX.	" " "	"	"	"	"	"	"	38.975	.996	. .
	57	B. A. C. 1195 . .	8.0	1	V.	" " "	"	"	"	"	"	"	19.328	.352	29.658
	58	Lacaille 1474 . .	8.0	1	V.	155 24 61.2	64.6	62.8	61.4	60.3	59.0	61.55	27.218	.245	. .
	59	Nadir 4h. 15m. . .	- -	3	. .	269 59 62.0	65.0	62.2	61.9	61.1	61.2	62.23*d*	29.859	.874	. .
	60	Uranus	- -	4	III–VII.	105 34 60.0	67.0	63.1	63.0	62.9	61.0	62.83	30.182	.203	29.656
	61	Mercury	- -	5	I–IX.	147 14 61.0	65.4	62.0	61.1	59.9	59.5	61.48	24.405	.431	29.698
	62	Nadir 21h. 10m. . .	- -	3	. .	269 59 60.0	60.7	59.8	59.1	58.5	59.8	59.65	29.791	.808	. .
5	63	Sun S. L. . . .	- -	4	I–IV.	144 59 60.4	64.6	60.0	59.2	60.5	59.8	60.75	15.370	.396	29.672
	64	B. A. C. 1211, (Ref.)	- -	3	IV$\frac{1}{2}$–V$\frac{1}{2}$.	311 24 59.9	61.5	59.9	55.0	58.0	58.3	58.77	30.213	.244	. .
	65	B. A. C. 1211 . .	5.3	3	VI$\frac{1}{2}$–VII$\frac{1}{2}$.	48 34 60.5	64.2	61.1	62.5	62.2	64.1	62.43	29.540	.470	29.642
	66	Nadir 4h. 7m. . .	- -	3	. .	269 59 60.4	61.4	58.6	57.9	59.6	60.9	59.80	29.787	.803	. .

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	*r.*	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	55.0	53.1	29.802	— 1 49.5	+ 2 8.2	155 45 17.2	— 26 51 38.0	— 27.2	Ha.	
2										Tried to observe Hebe, but it was too faint.
3	54.0	48.4	. .	45.5	16.2	105 34 30.8	+ 23 19 8.4			Very unsteady.
4	53.0	46.4	. .	— 1 15.4	1 52.3	152 25 35.4	— 23 31 56.2	+ 15.1		
5	. .	. .	. .	+ 1 49.9	1 53.8	152 43 42.4	23 50 3.2	17.6		
6	52.0	46.1	. .	1 38.3	1 52.6	152 28 29.6	23 34 50.4	+ 20.0		
7	41.5	40.4	29.781	+ 2 42.6	1 37.3	150 29 20.1	— 21 35 40.9		N.	
8	. .	. .	. .	— 51.7	+ 0.2	90 14 9.9	+ 38 39 29.3	— 7.8		Very steady.
9	50.5	58.5	. .	+ 2 37.5	— 14 54.7	146 52 41.1	— 17 59 1.9			
10										
11	55.8	55.3	. .	— 1 51.5	— 2 11.2	23 35 56.2	+ 74 42 17.0	+ 81.2		Cloudy. Bar. and Ther. read at 3h. 5m.
12	. .	. .	. .	+ 2 23.5	+ 8.6	278 27 29.8	47 21 9.0	— 58.7		Unsteady.
13	. .	. .	. .	— 2 21.9	— 8.6	81 32 29.6	47 21 9.6			
14	. .	. .	. .	+ 51.1	+ 23.8	112 21 13.4	+ 16 32 25.8	46.3		
15	. .	53.9	. .	1 45.9	2 7.2	155 38 49.7	— 26 45 10.5	32.2		
16	. .	. .	. .	+ 15.9	2 4.3	155 7 18.0	26 13 38.8	27.3		Faint; cloudy.
17	. .	53.2	. .	— 32.9	+ 1 0.3	136 5 26.1	— 7 11 46.9	30.1		
18	. .	. .	. .	— 3.6	— 23.1	248 19 33.2	+ 17 13 12.4	34.3		Very satisfactory.
19	. .	. .	. .	+ 0.2	+ 23.1	111 40 23.7	17 13 15.5			
20	. .	. .	. .	— 41.8	+ 24.3	112 39 41.6	16 13 57.6	29.1		
21	. .	. .	. .	— 25.0	— 22.8	68 39 11.3	60 14 27.9	32.1		
22	. .	50.0	. .	+ 26.4	+ 22.8	291 20 47.1	+ 60 14 26.3			Good.
23	. .	. .	. .	+ 32.1	— 1 3.2	222 44 27.7	— 8 21 53.1	— 7.2		Blurred and unsteady.
24	. .	. .	. .	— 34.0	+ 1 3.2	137 15 28.8	— 8 21 49.6			
25	. .	. .	. .	42.3	+ 16.2	105 34 34.7	+ 23 19 4.5			
26										
27	41.8	33.5	. .	— 1 51.2	— 2 16.0	23 35 56.7	+ 74 42 17.5	+ 81.5		
28	. .	. .	. .	+ 32.4	+ 1 35.2	147 57 7.4	— 19 3 28.2	— 43.0		Micrometer recorded 33*r*.
29	. .	33.0	. .	1 18.8	— 6 25.9	8 19 53.8	+ 59 26 14.6	+ 71.5		
30	. .	. .	. .	+ 1 21.4	+ 2 7.6	154 58 29.2	— 26 4 50.0	— 36.9		
31	. .	. .	. .	— 3 15.3	16.1	105 2 3.4	+ 23 51 35.8	49.7		
32	. .	. .	. .	6 9.4	16.1	104 59 9.3	23 54 29.9	49.4		
33	. .	. .	. .	8 7.5	16.0	104 57 11.1	23 56 28.1	49.3		
34	. .	. .	. .	3 37.2	16.0	105 1 41.4	23 51 57.8	48.8		Units of revolutions assumed.
35	. .	. .	. .	7 12.7	16.0	104 58 5.9	23 55 33.3	48.5		
36	. .	. .	. .	1 29.7	16.1	105 3 49.0	+ 23 49 50.2	48.1		
37	. .	32.5	. .	— 1 31.1	2 10.9	155 30 40.3	— 26 37 1.1	29.2		
38	. .	. .	. .	+ 10.6	2 8.7	155 7 20.2	26 13 41.0	26.6		
39										
40	. .	. .	. .	— 1 17.4	4 34.0	167 58 17.7	39 4 38.5	11.1		
41	. .	. .	. .	+ 1 17.7	4 34.6	168 0 53.4	39 7 14.2	10.3		Very faint.
42	. .	. .	. .	2.7	3 29.3	164 13 32.4	35 19 53.2	8.8		
43	. .	32.0	. .	+ 47.1	3 29.5	164 14 17.0	35 20 37.8	7.9		
44	. .	. .	. .	— 2 30.5	+ 2 3.5	154 9 33.0	25 15 53.8	— 7.7		
45	. .	. .	. .	+ 21.8	— 1 39.2	31 8 45.6	82 15 6.3	+ 34.6		
46	36.3	31.7	. .	— 34.6	+ 1 5.0	137 15 31.0	— 8 21 51.8	— 6.4		
47	. .	. .	. .	18.5	16.7	105 35 1.7	+ 23 18 37.5			
48	43.0	39.3	29.809	2 38.1	1 55.7	153 9 16.5	— 24 15 37.3	43.8	Ha.	
49	. .	. .	. .	3 47.6	16.0	105 11 30.4	+ 23 42 8.8	49.8		
50	. .	. .	. .	— 2 41.7	16.1	105 12 36.4	23 41 2.8	49.6		
51	. .	. .	. .	+ 1 54.1	16.2	105 17 12.3	23 36 26.9	49.4		
52	. .	. .	. .	6 59.7	16.2	105 22 17.9	23 31 21.3	49.0		
53	. .	. .	. .	— 4 6.4	16.2	105 19 24.6	23 34 14.6	48.8		
54	. .	. .	. .	+ 2 37.2	16.1	105 12 40.9	23 40 58.3	48.7		
55	. .	. .	. .	+ 12.9	16.1	105 15 31.0	23 38 8.2	48.1		
56	. .	. .	. .	— 4 47.9	16.0	105 10 30.1	23 43 9.1	48.1		
57	42.5	37.8	. .	+ 5 27.6	16.2	105 20 45.8	+ 23 32 53.4	47.5		
58	. .	. .	. .	+ 1 20.3	2 8.7	155 28 30.5	— 26 34 51.3	17.6		Very hazy and cloudy.
59										
60	41.0	37.1	. .	— 12.3	16.4	105 35 6.9	+ 23 18 32.3			Wire VI omitted. Very faint; through clouds.
61	41.7	43.9	. .	+ 2 48.5	+ 1 21.0	147 19 10.0	— 18 25 30.8		N.	
62										
63	44.3	48.8	. .	+ 7 31.6	— 14 59.7	144 52 32.6	— 15 58 53.4			Sun very well defined.
64	. .	. .	. .	— 13.6	+ 51.3	311 25 36.4	+ 80 19 15.6	61.5		
65	47.0	44.5	. .	+ 10.6	— 51.3	48 34 21.7	+ 80 19 17.5	— 61.5		
66										

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Feb. 7	1	Venus, centre		3	IV–VI.	150 39 58.7	63.5	61.9	62.2	56.4	57.7	60.07	28.067	.092	29.673
	2	Nadir 21h. 15m.		3		269 59 59.1	62.9	59.5	61.4	57.8	59.5	60.06	29.794	.809	
8	3	Sun N. L.		4	I–IV.	143 39 59.2	63.8	60.4	61.2	57.1	58.4	60.02	31.002	.027	
	4	Sun S. L.		4	VI–IX.	144 9 58.2	63.0	60.1	60.3	56.9	57.5	59.33	26.372	.404	29.672
	5	Nadir		2		269 59 61.1	63.4	60.9	61.9	58.9	59.7	60.98	29.843	.858	
	6	Rumker 945	8.0	1	V.	105 4 60.2	65.6	62.4	62.9	60.1	61.3	62.08	45.460	.472	29.783
	7	16*g* Pleiadum	6.5	1	V.	" " "	"	"	"	"	"	"	36.018	.039	
	8	20*c* Pleiadum	5.0	1	V.	" " "	"	"	"	"	"	"	45.286	.312	
	9	24 Pleiadum	8.0	1	V.	" " "	"	"	"	"	"	"	36.750	.754	
	10	29 Pleiadum	8.0	1	V.	" " "	"	"	"	"	"	"	43.630	.631	
	11	Lacaille 1509	7.5	5	III–VII.	154 44 58.9	63.4	61.2	61.0	57.9	58.1	60.08	34.216	.247	29.800
	12	Hebe	9.4	1	IX.	120 54 59.4	63.2	60.1	60.6	57.1	57.8	59.70	31.666	.684	
	13	Anon. 4h. 33m. 48s.	8.8	1	II.	" " "	"	"	"	"	"	"	34.970	.965	
	14	Anon. 4h. 54m. 20s.	7.2	5	I–IX.	154 9 59.5	64.1	61.9	61.6	57.6	57.5	60.37	34.589	.603	29.818
	15	Lacaille 1754	7.3	5	I–IX.	166 24 59.6	64.5	62.2	64.7	58.6	58.1	61.28	32.463	.494	
	16	Lacaille 1806	7.3	5	III–VII.	158 14 59.4	63.3	62.2	62.0	56.9	57.4	60.20	35.337	.365	
	17	Uranus		5	I–IX.	105 34 59.1	65.6	63.0	63.8	59.9	59.9	61.88	29.699	.690	29.826
	18	ω Draconis, S. P.		5	VII–III.	17 44 59.8	63.4	63.1	64.6	57.5	57.9	61.05	28.403	.441	
	19	ψ^1 Draconis, S. P.	4.0	3	VI–IV.	21 9 59.6	62.6	61.7	63.9	57.9	59.1	60.80	31.999	.028	
	20	Lacaille 2122	7.7	5	I–IX.	156 54 59.2	63.8	61.7	63.5	57.6	57.9	60.62	30.154	.194	29.834
	21	Lacaille 2189		5	III–VII.	157 14 59.2	64.0	61.3	63.4	57.7	57.6	60.53	25.243	.274	
	22	δ Ursæ Minoris, S. P.	4.0	2	2, 1.	35 29 58.5	62.5	60.9	63.7	56.5	58.1	60.03	27.686	.690	
	23	Nadir 6h. 30m.		3		269 59 60.2	63.5	60.5	63.2	57.1	59.3	60.63	29.824	.839	
	24	*a* Canis Majoris		5	I–IX.	145 24 59.9	64.6	61.4	62.3	58.6	58.6	60.90	31.018	.046	29.848
	25	50 Draconis, S. P.		3	V–III.	24 9 60.0	64.6	62.9	65.5	57.5	59.2	61.62	25.881	.911	
9	26	17*b* Pleiadum	6 0	1	V.	105 14 59.7	67.2	61.9	65.1	60.0	61.4	62.55	34.970	.988	29.950
	27	1 Pleiadum	9.0	1	V.	" " "	"	"	"	"	"	"	26.139	.166	
	28	7 Pleiadum	9.0	1	VI.	" " "	"	"	"	"	"	"	26.802	.815	
	29	23*d* Pleiadum		1	VI.	" " "	"	"	"	"	"	"	16.420	.442	
	30	24*h* Pleiadum		1	V.	" " "	"	"	"	"	"	"	36.129	.155	
	31	η Tauri		1	VII.	" " "	"	"	"	"	"	"	34.863	.882	
	32	27*f* Pleiadum	6.0	3	I, II, IV.	" " "	"	"	"	"	"	"	29.428	.414	
	33	28*h* Pleiadum	7.0	4	VI–IX.	" " "	"	"	"	"	"	"	39.017	.043	
	34	40 Pleiadum	9.0	1	V.	" " "	"	"	"	"	"	"	19.374	.395	
	35	B. A. C. 1229	7.5	3	IV–VI.	142 49 57.9	63.2	60.0	61.2	56.4	56.5	59.20	25.494	.504	
	36	γ^1 Eridani	3.0	5	III–VII.	" " "	"	"	"	"	"	"	36.771	.778	29.966
	37	Nadir 4h. 11m.		3		269 59 58.8	63.6	58.9	62.2	57.2	57.7	59.73*d*	29.776	.791	
	38	B. A. C. 1482		5	III–VII.	157 14 59.9	65.4	61.1	64.1	58.5	57.5	61.08	36.237	.268	29.980
	39	O. Arg. S. 3492	8.0	5	III–VII.	154 44 59.9	65.8	62.0	63.3	58.6	59.0	61.43	31.321	.350	
	40	B. A. C. 1531	7.5	4	VI–IX.	" " "	"	"	"	"	"	"	22.886	.927	
	41	*a* Aurigæ, (Ref.)		4	I–IV.	276 54 60.4	65.3	61.9	64.9	60.0	60.1	62.10	24.849	.869	
	42	*a* Aurigæ		2	VIII, IX.	83 4 60.8	67.8	63.1	67.9	60.4	62.3	63.72	35.031	.034	
	43	B. A. C. 1688		5	III–VII.	155 44 59.0	65.2	59.8	62.8	57.3	57.0	60.18	35.844	.859	30.000
	44	*a* Lyræ		5	I–IX.	90 14 59.6	68.8	63.6	68.5	58.0	59.9	63.07	31.437	.431	
	45	Venus		5	I–IX.	150 34 58.7	65.9	63.1	67.0	56.4	56.9	61.33	27.800	.817	30.168
	46	Mercury		5	I–IX.	147 59 59.0	64.2	62.4	64.4	55.9	56.0	60.32	25.757	.771	30.183
10	47	Sun N. L.		4	I–IV.	142 59 58.6	64.9	60.5	63.9	58.0	57.4	60.55	28.136	.167	
	48	Sun S. L.		4	VI–IX.	143 29 58.0	64.5	60.9	63.0	57.5	56.5	60.07	23.440	.461	30.182
	49	Nadir 4h. 20m.		3		269 59 59.4	65.4	60.9	65.0	57.6	57.4	60.95	29.830	.845	
	50	Lacaille 1504	8.0	1	V.	154 19 59.9	67.0	63.7	64.9	58.8	57.4	61.95	26.956	.973	
	51	Lacaille 1521	7.2	5	III–VII.	" " "	"	"	"	"	"	"	47.002	.026	30.293
	52	O. Arg. S. 3382	7.5	1	V.	155 24 59.1	65.6	63.4	64.6	58.4	56.0	61.18	30.675	.676	
	53	O. Arg. S. 3488	8.2	3	IV–VI.	155 49 58.6	64.4	61.5	63.7	57.3	55.2	60.12	32.245	.274	
	54	ε Ursæ Minoris, S. P.		3	VI.	31 9 58.4	64.6	62.3	66.5	57.4	57.3	61.08	29.001	.048	
	55	Uranus		5	I–IX.	105 34 59.0	67.5	63.8	65.6	59.7	57.8	62.23	29.495	.492	30.300
	56	35 Draconis, S. P.	5.0	3	VI–IV.	25 54 59.1	66.2	63.8	66.4	57.5	57.6	61.77	31.221	.256	30.306
	57	δ Ursæ Minoris, S. P.		3	V–1.	35 29 59.4	65.0	63.2	66.8	58.1	57.6	61.68	27.628	.642	
	58	Nadir 7h. 10m.		3		269 59 59.1	65.9	61.0	66.1	57.2	56.9	61.03	29.864	.879	
	59	Venus N. L.		5	I–IX.	150 34 58.1	67.0	62.9	66.7	57.0	55.2	61.15	34.439	.463	30.418
	60	Venus S. C.		4	II–VIII.	" " "	"	"	"	"	"	"	33.972	.996	
11	61	Sun N. L.		4	I–IV.	142 44 57.8	65.9	60.1	64.9	58.1	57.0	60.63	36.912	.932	30.340
	62	Sun S. L.		4	VI–IX.	143 14 58.5	65.5	58.8	64.4	57.0	57.1	60.22	32.227	.260	
	63	17*b* Pleiadum	6.0	5	I–V.	105 14 58.4	65.9	59.2	62.6	59.9	60.1	61.02	34.982	.980	
	64	1 Pleiadum	9.0	1	V.	" " "	"	"	"	"	"	"	26.149	.176	
	65	7 Pleiadum	9.0	1	V.	" " "	"	"	"	"	"	"	26.715	.717	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	41.0	40.0	29.809	+ 53.8	+ 1 37.7	150 42 31.5	— 21 48 52.3		N.	
2										
3	. .	. .	. .	— 38.2	1 12.2	143 40 34.0	14 46 54.8			
4	43.3	44.1	. .	+ 1 46.7	1 13.7	144 12 59.7	— 15 3 7.6			Hazy; limbs ill defined.
5										
6	41.2	38.0	29.823	— 8 10.1	15.8	104 57 7.7	+ 23 56 31.5	— 50.0		
7	. .	. .	. .	3 14.8	15.9	105 2 3.1	23 51 36.1	49.6		
8	. .	. .	. .	8 5.1	15.8	104 57 12.7	23 56 26.5	49.3		
9	. .	. .	. .	3 37.2	15.9	105 1 40.7	23 51 58.5	48.8		
10	. .	. .	. .	7 12.6	15.9	104 58 5.3	+ 23 55 33.9	48.4		
11	40.2	36.9	. .	2 18.6	2 5.3	154 44 46.7	— 25 51 7.5	16.8		
12	. .	. .	. .	58.3	35.6	120 54 37.0	+ 7 59 2.2			Doubtful whether the magnitudes of Hebe and next star should not be interchanged.
13	. .	. .	. .	41.1	35.6	120 52 54.2	+ 8 0 45.0	24.0		Follows Hebe 3*s.* or 4*s.*
14	39.4	36.2	. .	2 27.5	2 2.3	154 9 35.1	— 25 15 55.9	— 6.9		
15	. .	. .	. .	1 23.7	4 2.0	166 27 39.5	37 34 0.3	+ 0.1		
16	. .	. .	. .	— 2 53.7	2 28.3	158 14 34.8	— 29 20 55.6	1.6		
17	38.7	35.1	. .	+ 4.2	+ 16.5	105 35 22.5	+ 23 18 16.7			
18	. .	. .	. .	+ 43.3	— 3 4.7	17 42 39.6	68 49 0.3	20.0		
19	. .	. .	. .	— 1 9.1	— 2 33.5	21 6 18.2	+ 72 12 38.9	17.0		
20	37.7	34.4	. .	— 11.6	+ 2 19.6	156 57 8.6	— 28 3 29.4	17.3		
21	. .	. .	. .	+ 2 22.5	+ 2 22.2	157 19 45.2	— 28 26 6.0	20.4		
22	. .	. .	. .	+ 1 6.8	— 1 23.8	35 29 43.0	+ 86 36 3.7	2.3		
23										
24	37.0	33.8	. .	— 38.3	+ 1 26.8	145 25 49.4	— 16 32 10.2	+ 29.6		
25	. .	. .	. .	+ 2 2.6	— 2 12.8	24 9 51.4	+ 75 16 12.2	— 12.4		
26	38.0	33.9	29.800	— 2 42.6	+ 16.4	105 12 36.3	23 41 2.9	49.5	Ha.	
27	. .	. .	. .	+ 1 53.9	16.5	105 17 12.9	23 36 26.3	49.3		
28	. .	. .	. .	1 33.5	16.5	105 16 52.5	23 36 46.7	49.2		
29	. .	. .	. .	+ 6 58.6	16.6	105 22 17.7	23 31 21.5	49.0		
30	. .	. .	. .	— 3 19.1	16.4	105 11 59.8	23 41 39.4	48.7		
31	. .	. .	. .	— 2 39.2	16.4	105 12 39.7	23 40 59.5	48.6		
32	. .	. .	. .	+ 12.1	16.4	105 15 31.0	23 38 8.2	48.1		
33	. .	. .	. .	— 4 49.6	16.4	105 10 29.3	23 43 9.9	48.1		
34	. .	. .	. .	+ 5 26.0	16.6	105 20 45.1	+ 23 32 54.1	47.5		
35	. .	. .	. .	+ 2 14.6	1 19.5	142 53 33.3	— 13 59 54.1	32.3		
36	38.0	33.3	. .	— 3 38.6	1 19.2	142 47 39.8	13 54 0.6	31.8		
37										
38	37.0	31.5	. .	3 22.7	2 23.0	157 14 1.3	28 20 22.1	10.9		
39	. .	. .	. .	— 48.6	2 7.7	154 46 20.5	25 52 41.3	8.4		
40	. .	. .	. .	+ 3 35.3	2 8.1	154 50 44.8	— 25 57 5.6	8.2		
41	. .	. .	. .	+ 2 34.5	+ 7.4	276 57 44.0	+ 45 51 23.2	23.1		
42	. .	. .	. .	— 2 44.0	— 7.4	83 2 12.3	+ 45 51 26.9	— 23.1		
43	36.5	30.4	. .	3 9.8	+ 2 13.7	155 44 4.0	— 26 50 24.8	+ 2.1		
44	. .	. .	29.820	— 50.5	0.2	90 14 12.8	+ 38 39 26.4	— 5.0	N	
45	29.3	28.5	. .	+ 1 2.8	1 41.9	150 37 46.0	— 21 44 6.8			
46	32.0	30.5	. .	2 6.9	1 28.9	148 3 36.7	19 9 56.9			Very faint and tremulous.
47	. .	. .	. .	51.8	1 13.7	143 2 6.0	14 24 41.0			Limbs undulating excessively.
48	35.6	32.3	. .	3 19.3	1 15.2	143 34 34.5				
49										Image very faint and uncertain.
50	. .	. .	29.835	+ 1 29.7	2 8.4	154 23 40.0	25 30 0.8	16.4		
51	30.0	25.5	. .	— 8 58.7	2 7.4	154 13 10.6	25 19 31.4	15.6		
52	. .	. .	. .	26.4	2 14.7	155 26 49.4	26 33 10.2	11.1		
53	. .	. .	. .	— 1 16.4	+ 2 17.2	155 51 0.9	— 26 57 21.7	— 8.2		
54	. .	. .	. .	+ 24.7	— 1 42.2	31 8 43.5	+ 82 15 4.3	+ 36.0		Steady. Middle reading at wire VI. One reading 23s. before, and the other 35s. after.
55	28.5	24.8	. .	+ 10.8	+ 17.2	105 35 30.2	23 18 9.1			
56	. .	24.1	. .	— 44.5	— 2 7.4	25 52 9.8	76 58 30.6	12.5		
57	. .	. .	. .	+ 1 8.7	— 1 27.0	35 29 43.3	+ 86 36 4.1	+ 2.8		
58										Image steady.
59	25.5	24.1	29.856	— 2 24.4	+ 1 43.6	150 34 20.3	— 21 40 48.5		Ha.	
60	. .	. .	. .	2 9.7	1 43.6	150 34 35.0				
61	31.0	32.1	. .	3 41.7	1 13.3	142 42 32.2	— 14 5 6.7			
62	. .	. .	. .	1 15.4	1 14.8	143 14 59.6				
63	. .	. .	. .	— 2 40.6	16.5	105 12 36.9	+ 23 41 2.3	— 49.4		
64	. .	. .	. .	+ 1 55.3	16.6	105 17 12.9	23 36 26.3	49.2		
65	. .	. .	. .	+ 1 38.4	+ 16.6	105 16 56.0	+ 23 36 43.2	— 49.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Feb. 11	1	23*d* Pleiadum	6.0	1	V.	105 14 58.4	65.9	59.2	62.6	59.9	60.1	61.02	16.410	.427	. .
	2	24*h* Pleiadum	8.0	1	V.	" " "	"	"	"	"	"	"	36.080	.104	. .
	3	η Tauri	5.0	3	VI–IX.	" " "	"	"	"	"	"	"	34.838	.853	. .
	4	27*f* Pleiadum	5	3	III–V.	" " "	"	"	"	"	"	"	29.400	.406	. .
	5	28*h* Pleiadum	. .	3	VII–IX.	" " "	"	"	"	"	"	"	39.014	.041	. .
	6	B. A. C. 1195	8	3	IV–VI.	" " "	"	"	"	"	"	"	19.372	.392	30.154
	7	Nadir	. .	3	. .	269 59 58.6	62.9	57.5	60.9	57.2	58.1	59.20*d*	29.811	.826	. .
	8	Lacaille 1531	7	4	VI–IX.	156 14 60.7	65.2	61.0	63.9	60.0	58.0	61.47	37.239	.294	30.140
	9	α Aurigæ, (Ref.)	. .	4	I–V.	276 54 59.6	63.2	59.3	62.0	59.9	59.8	60.63	24.831	.849	. .
	10	α Aurigæ	. .	3	VII–IX.	83 4 59.9	66.5	61.6	64.5	60.5	62.1	62.52	35.015	.022	. .
	11	Uranus	. .	5	III–VII.	105 34 59.5	67.2	61.4	64.1	61.3	61.9	62.57	29.373	.391	30.136
	12	α Canis Majoris	. .	5	III–VII.	145 24 60.0	65.8	60.2	61.9	60.2	60.5	61.43	31.048	.073	30.086
	13	Venus, centre	. .	5	III–VII.	150 29 59.1	65.3	60.9	63.1	59.2	59.6	61.20	32.014	.038	29.832
12	14	Sun N. L.	. .	4	I–IV.	142 14 59.2	63.8	58.6	60.9	58.8	61.2	60.42	17.178	.200	. .
	15	Sun S. L.	. .	4	VI–IX.	142 49 58.8	63.6	58.9	60.0	58.9	60.5	60.12	22.196	.229	29.798
	16	Nadir 21h. 55m.	. .	3	. .	269 59 60.8	62.4	58.8	58.9	59.9	61.8	60.43	29.847	.862	. .
	17	Moon S. L.	. .	5	III–VII.	115 14 62.2	68.5	61.5	61.7	64.2	65.9	64.00	26.993	.011	29.812
	18	17*b* Pleiadum	. .	1	V.	105 9 58.0	62.0	57.0	56.8	60.1	61.7	59.27	25.318	.343	. .
	19	8 Pleiadum	. .	3	IV–VI.	" " "	"	"	"	"	"	"	35.195	.221	. .
	20	24*h* Pleiadum	. .	3	IV–VI.	" " "	"	"	"	"	"	"	26.433	.447	. .
	21	η Tauri	. .	4	VI–IX.	" " "	"	"	"	"	"	"	25.190	.222	. .
	22	27*f* Pleiadum	. .	3	IV–VI.	" " "	"	"	"	"	"	"	19.809	.816	. .
	23	28*h* Pleiadum	. .	2	VIII, IX.	" " "	"	"	"	"	"	"	29.382	.407	29.857
	24	δ^1 Tauri	. .	3	I–IV.	111 39 58.7	61.8	56.5	56.5	58.6	61.6	58.95	29.761	.744	. .
	25	δ^1 Tauri, (Ref.)	. .	4	VI–IX.	248 19 53.0	53.4	52.5	52.0	55.0	57.4	53.88	29.734	.760	. .
	26	α Camelopardali	. .	3	III–IV.	62 49 59.5	62.7	58.8	59.4	60.6	64.4	60.90	34.594	.565	. .
	27	α Camelopardali, (Ref.)	. .	3	VII–IX.	297 9 58.4	60.6	57.0	56.4	58.2	58.5	58.18	25.100	.194	29.868
	28	ε Ursæ Minoris, S. P.	. .	3	V–I.	31 9 59.8	62.5	60.1	61.1	61.2	62.8	61.25	29.263	.290	. .
	29	Uranus	. .	5	I–IX.	105 34 58.7	63.9	59.0	58.5	61.4	62.8	60.72	29.250	.266	. .
	30	Nadir	. .	3	. .	269 59 60.1	61.7	58.0	58.4	59.6	62.6	60.07	29.854	.869	. .
	31	51 (Hev.) Cephei	. .	5	I–5.	41 39 59.9	64.6	62.4	62.9	61.9	65.4	62.85	30.047	.068	29.902
13	32	Sun S. L.	. .	4	I–IV.	142 34 58.5	65.8	59.3	62.9	59.2	61.2	61.15	31.794	.806	29.858
	33	Sun N. L.	. .	4	VI–IX.	142 4 58.3	65.2	59.2	61.8	59.2	60.0	60.62	36.485	.501	. .
	34	Nadir 23h. 27m.	. .	3	. .	269 59 58.4	58.3	56.0	56.1	56.1	59.0	57.32	29.768	.784	. .
	35	Moon S. L.	. .	4	VI–IX.	112 4 13.5	18.5	12.4	14.0	14.0	15.8	14.70	35.114	.022	29.771
	36					112 4 13.8	17.9	12.2	13.7	13.2	16.1	14.48			
	37	ω^2 Tauri	. .	3	IV–VI.	108 44 57.1	62.2	55.8	56.9	57.8	58.9	58.12	41.529	.534	29.768
	38	Anon. 4h. 41m. 1s.	9.5	1	V.	118 9 57.3	61.8	54.7	56.2	57.0	58.3	57.55	35.925	.940	. .
	39	Weisse IV, 926	7.5	5	III–VII.	" " "	"	"	"	"	"	"	42.689	.690	. .
	40	Weisse IV, 1028	8	5	III–VII.	120 29 57.1	60.3	55.5	55.9	56.9	57.1	57.13	28.644	.644	29.776
	41	α Aurigæ, (Ref.)	. .	3	II–IV.	276 54 59.1	60.3	57.8	58.0	59.2	61.2	59.27	24.803	.813	. .
	42	α Aurigæ	. .	4	VI–IX.	83 4 58.3	62.4	60.0	59.1	59.6	62.1	60.25	34.941	.948	. .
	43	Uranus	. .	5	III–VII.	105 34 58.3	65.3	60.1	59.2	61.0	61.8	60.95	29.128	.151	29.778
	44	Nadir 5h. 36m.	. .	3	. .	269 59 58.6	61.0	56.8	58.0	57.0	60.4	58.63*d*	28.818	.826	. .
	45	μ Geminorum	. .	3	VII–IX.	106 19 57.9	64.0	59.2	59.1	60.3	60.0	60.08	32.440	.459	29.758
	46	α Canis Majoris	. .	4	VI–IX.	145 24 59.1	63.0	58.9	58.5	59.1	60.2	59.80	30.923	.961	. .
	47	ε Canis Majoris	. .	5	III–VII.	157 39 60.0	63.0	60.2	60.0	59.5	60.8	60.58	31.940	.960	. .
	48	B. A. C. 2298	9	1	VIII.	" " "	"	"	"	"	"	"	33.202	.264	29.738
	49	α^2 Geminorum, (Ref.)	. .	3	II–IV.	263 14 60.8	63.8	60.8	62.1	60.5	63.9	61.98	25.468	.476	. .
	50	α^2 Geminorum	. .	2	VII, IX.	96 44 60.3	68.0	63.7	63.3	63.8	64.3	63.90	34.438	.448	29.738
16	51	Sun N. L.	. .	4	I–IV.	141 4 59.9	65.4	60.8	63.9	58.3	60.0	61.38	38.992	.016	29.400
	52	Sun S. L.	. .	4	VI–IX.	141 34 59.0	65.2	61.6	63.0	59.0	59.1	61.15	34.301	.332	. .
	53	Weisse IV, 986	8	4	III–VII.	120 29 60.2	66.7	62.0	63.4	59.0	58.2	61.58	23.130	.153	29.682
	54	Weisse V, 136	6	5	III–VII.	137 14 60.4	67.1	63.1	63.9	58.7	57.8	61.83	36.866	.879	29.706
	55	Uranus	. .	5	III–VII.	105 34 60.3	68.5	65.0	67.0	60.4	60.9	63.68	29.026	.045	. .
	56	Moon S. L.	. .	5	III–VII.	108 44 60.3	67.8	62.7	65.8	57.9	59.3	62.30	26.689	.688	29.730
	57	Nadir 6h. 0m.	. .	5	. .	269 59 60.4	69.8	59.7	59.0	63.0	59.8	61.95*d*	29.945	.959	. .
	58	α Canis Majoris	. .	5	III–VII.	145 24 60.3	67.5	63.5	66.9	57.2	59.1	62.42	31.075	.101	29.740
17	59	π^1 Columbæ	. .	5	III–VII.	171 4 61.1	70.9	69.5	73.6	59.0	55.6	64.95	31.143	.176	30.283
	60	Nadir 6h. 20m.	. .	3	. .	269 59 58.1	67.7	54.8	68.5	57.5	52.0	59.77	29.833	.848	. .
	61	Moon N. L.	. .	4	I–IV.	109 19 58.0	70.2	63.6	68.2	57.7	51.7	61.57	31.141	.068	. .
	62	Moon S. L.	. .	4	VI–IX.	109 49 57.4	69.8	64.8	68.5	57.5	52.4	61.73	30.662	.744	30.309
18	63	Sun S. L.	. .	4	I–IV.	140 49 57.6	66.8	62.3	61.6	58.3	51.0	59.60	28.572	.580	30.446
	64	Sun N. L.	. .	4	VI–IX.	140 19 58.0	68.2	61.5	63.1	59.0	51.0	60.13	33.052	.079	. .
	65	α Canis Majoris	. .	5	III–VII.	145 24 57.5	65.8	62.0	62.2	58.0	52.0	59.58	31.079	.105	30.468

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.856	+ 7 0.8	+ 16.7	105 22 18.5	+ 23 31 20.7	— 48.8	Ha.	
2	. .	. .	. .	— 3 15.8	16.5	105 12 1.7	23 41 37.5	48.6		
3	. .	. .	. .	— 2 36.6	16.5	105 12 40.9	23 40 58.3	48.5		Missed wire VII.
4	. .	. .	.	+ 14.1	16.5	105 15 31.6	23 38 7.6	48.0		
5	. .	. .	. .	— 4 47.8	16.5	105 10 29.7	23 43 9.5	48.0		
6	35.3	32.1	. .	+ 5 27.9	16.7	105 20 45.6	+ 23 32 53.6	47.3		
7										
8	35.5	30.7	. .	— 3 53.1	2 17.3	156 13 25.6	— 27 19 46.4	14.4		
9	. .	. .	. .	+ 2 36.9	+ 7.5	276 57 45.0	+ 45 51 24.3	23.2		Missed wire IV.
10	. .	. .	. .	— 2 41.9	— 7.5	83 2 13.1	45 51 26.1	— 23.2		
11	35.5	29.5	. .	+ 14.6	+ 16.9	105 35 34.0	+ 23 18 5.2			
12	35.0	29.3	. .	— 38.1	1 27.7	145 25 51.0	— 16 32 11.8	+ 30.1		
13	37.0	40.2	. .	— 1 8.4	1 37.7	150 30 30.5	21 36 51.3			Very faint; through thick haze.
14	. .	. .	. .	+ 6 36.6	1 8.6	142 22 45.6 }	— 13 45 18.1		N.	
15	40.3	47.5	. .	3 59.0	+ 1 9.9	142 55 9.1 }				
16										
17	44.0	49.7	. .	1 29.2	— 39 52.5	114 36 40.7	+ 14 16 58.5		Ha.	Very faint and uncertain.
18	. .	. .	. .	+ 2 21.4	+ 15.9	105 12 36.5	23 41 2.7	— 49.3	N.	
19	. .	. .	. .	— 2 48.1	15.8	105 7 26.9	23 46 12.3	48.7		
20	. .	. .	. .	+ 1 46.8	15.9	105 12 1.9	23 41 37.3	48.5		
21	. .	. .	. .	2 25.2	15.9	105 12 40.3	23 40 58.9	48.4		
22	. .	. .	. .	5 14.6	16.0	105 15 29.8	23 38 9.4	47.8		
23	45.0	44.8	. .	14.1	15.9	105 10 29.2	23 43 10.0	47.9		
24	. .	. .	. .	3.5	+ 23.3	111 40 25.8	17 13 13.4	33.8		Missed wire II.
25	. .	. .	. .	+ 3.0	— 23.3	248 19 33.6	17 13 12.8	33.8		
26	. .	. .	. .	— 2 27.6	— 30.3	62 47 3.0	66 6 36.2	39.2		
27	. .	42.7	. .	+ 2 26.1	+ 30.3	297 12 54.6	66 6 33.8	— 39.2		Defective division under Mic. D. C and D disregarded, and —0″.83 added to mean of A, B, E, F.
28	. .	42.1	. .	17.7	— 1 37.2	31 8 41.7	82 15 2.5	+ 36.2		
29	. .	. .	. .	+ 18.5	+ 16.4	105 35 35.6	23 18 3.6			
30										
31	42.5	39.5	. .	— 6.6	— 1 6.6	41 38 49.6	+ 87 14 49.6	+ 6.3		
32	41.5	48.1	29.870	1 0.7	+ 1 9.1	142 35 9.5 }	— 13 25 15.8		Ha.	
33	. .	. .	. .	3 27.8	+ 1 7.7	142 2 40.5 }				
34										
35										Circle reading on 5′ division.
36	44.0	45.5	. .	26 41.4	— 36 18.6	111 25 14.6	+ 17 28 24.6		N.	Circle reading on 0′ division.
37	44.0	39.1	. .	6 5.5	+ 20.0	108 39 12.6	23 14 26.6	— 37.8	Ha.	
38	. .	. .	. .	3 10.2	31.6	118 7 18.9	10 46 20.3	21.8		Exceedingly faint. Observation quite uncertain.
39	. .	. .	. .	— 6 41.7	31.6	118 3 47.4	10 49 51.8	20.8		
40	44.0	38.5	. .	+ 38.4	34.9	120 31 10.4	8 22 28.8	18.6		
41	. .	. .	. .	+ 2 38.5	+ 7.2	276 57 45.0	45 51 25.2	23.2		
42	. .	. .	. .	— 2 39.1	— 7.2	83 2 13.9	45 51 25.3	— 23.2		
43	43.5	38.5	. .	+ 22.5	+ 16.4	105 35 39.8	23 17 59.4			
44										
45	43.0	37.1	. .	— 1 21.1	17.4	106 18 56.3	+ 22 34 42.9	+ 11.6		
46	. .	. .	. .	34.2	1 26.1	145 25 51.7	— 16 32 12.5	30.4		
47	. .	. .	. .	1 5.5	2 23.8	157 41 18.8	28 47 39.6	37.3		
48	42.5	35.4	. .	— 1 46.3	+ 2 23.8	157 40 38.0	— 28 46 58.8	37.4		
49	. .	. .	. .	+ 2 17.7	— 7.0	263 17 12.6	+ 32 10 51.8	37.8		
50	42.0	36.0	. .	— 2 23.5	+ 7.0	96 42 47.4	+ 32 10 51.8	+ 37.8		
51	41.0	37.4	29.897	4 45.7	1 5.5	141 1 21.1 }	— 12 23 55.8			
52	. .	. .	. .	— 2 19.0	1 6.9	141 33 49.0 }				
53	35.5	20.5	. .	+ 3 31.3	36.2	120 34 9.0	+ 8 19 30.2	— 19.0		Missed wire VI. Observations poor. Night very bad.
54	33.0	19.8	. .	— 3 38.8	1 6.2	137 12 29.2	— 8 18 50.0	— 5.7		
55	. .	. .	. .	+ 26.7	+ 17.0	105 35 47.3	+ 23 17 51.9			
56	32.0	18.5	. .	+ 1 40.5	— 32 3.7	108 14 39.1	+ 20 39 0.1			
57										Nadir uncertain, owing to the tremendous gale which was blowing at the time.
58	29.0	16.0	. .	— 37.7	+ 1 29.7	145 25 54.4	— 16 32 15.2	+ 30.9		
59	13.0	6.3	29.855	41.4	+ 6 35.2	171 10 58.7	— 42 17 19.5	22.2	N.	
60										
61	. .	. .	. .	38.0	— 17 25.8	109 1 57.7 }	+ 19 36 49.5			Both limbs very much blurred, and uncertain by 3″ or 4″.
62	14.0	5.9	. .	— 27.8	— 17 52.2	109 31 41.7 }				
63	19.0	15.3	29.807	+ 38.4	+ 1 11.3	140 51 49.3 }	— 11 41 59.2		Ha.	Observed through clouds. Sun's limb faint. Observation uncertain.
64	. .	. .	. .	— 1 42.5	1 9.9	140 19 27.5 }				
65	19.5	13.5	. .	— 40.7	+ 1 32.5	145 25 51.3	— 16 32 12.1	+ 31.2		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Feb. 18	1	Nadir		5		269 59 57.8	66.9	61.9	64.7	58.8	53.0	60.52	29.809	.824	
	2	Moon N. L.		5	III–VII.	111 19 57.8	68.4	62.5	65.3	58.9	53.2	61.02	33.804	.810	30.488
	3	Venus, centre		5	I–IX.	149 44 57 1	65.5	63.9	65.7	57.3	50.5	60.00	32.147	.184	30.575
19	4	Sun N. L.		4	I–IV.	139 54 57.6	67.1	62.8	64.5	60.2	52.5	60.78	25.969	.992	
	5	Sun S. L.		4	VI–IX.	140 29 57.9	68.3	63.5	65.5	61.1	53.0	61.55	31.066	.094	30.520
	6	Nadir 5h. 15m.		3		269 59 57.5	63.2	60.4	60.6	58.6	52.9	58.87	29.809	.824	
	7	Uranus		5	I–IX.	105 34 57.9	68.2	64.0	64.6	62.6	56.2	62.25	28.820	.818	30.352
	8	*α* Canis Majoris		5	I–IX.	145 24 56.6	64.4	60.4	59.9	59.0	53.1	58.90	31.072	.103	31.340
	9	*γ* Canis Majoris		5	I–IX.	144 19 58.3	65.8	62.3	61.9	61.1	53.6	60.50	32.648	.656	
	10	B. A. C. 2326		3	1–5.	46 14 58.4	66.0	64.0	63.6	61.2	55.4	61.43	30.139	.165	
	11	*β* Geminorum, (Ref.)		4	VI–IX.	259 24 57.5	63.9	60.1	63.2	58.9	55.7	59.88	25.041	.093	
	12	*λ* Ursæ Minoris, S. P.		4	2–1.	37 49 58.5	65.7	64.1	65.3	61.9	55.7	61.87	31.634	.641	30.320
	13	Moon N. L.		4	I–IV.	114 4 57.8	67.0	62.9	63.9	60.4	54.7	61.12	31.922	.769	
	14	Moon S. L.		4	VI–IX.	114 34 56.2	65.1	61.1	62.2	57.9	52.8	59.22	31.750	.922	30.315
	15	Venus S. L.		5	I–IX.	149 34 57.3	64.9	61.5	62.0	59.0	53.0	59.62	29.628	.638	30.218
	16	Venus N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	30.102	.133	
20	17	Sun S. L.		4	I–IV.	140 9 57.2	60.4	53.6	60.9	56.3	55.3	57.28	33.362	.389	30.196
	18	Sun N. L.		4	VI–IX.	139 39 57.0	62.4	53.3	57.8	57.5	53.1	56.85	37.899	.917	
	19	Nadir 0h. 19m.		3		269 59 56.9	58.3	55.0	53.3	57.3	53.1	55.65	29.668	.686	
22	20	55 Camelopardali, (Ref.)		2	1, 5.	299 59 59.8	61.8	60.6	53.1	60.5	57.9	58.95	33.820	.830	
	21	55 Camelopardali		4	VI–IX.	59 59 61.0	63.6	64.0	59.0	63.8	63.8	62.53	26.025	.000	29.833
	22	*κ* Cephei, S. P.		3	VII–III.	26 14 61.0	64.8	63.9	59.2	63.4	58.7	61.83	32.619	.664	
	23	B. A. C. 7124, S. P.		5	VII–III.	20 59 60.6	63.5	63.1	60.8	63.5	60.0	61.92	29.150	.200	29.832
	24	*σ* Ursæ Majoris		3	IV–VI.	61 14 60.6	64.4	63.4	59.3	63.7	63.4	62.47	33.190	.210	
	25	Nadir 9h. 10m.		4		269 59 60.8	61.3	60.8	56.3	60.7	59.8	59.95*d*	29.882	.897	
	26	1 (Hev.) Draconis		3	1–5.	46 59 59.5	61.4	60.9	57.0	61.7	59.2	59.95	31.151	.177	
	27	1 (Hev.) Draconis (Ref.)		4	VI–IX.	312 59 60.2	60.9	62.5	53.6	61.4	57.4	59.33	28.424	.625	29.834
	28	B. A. C. 3528		3	1–5.	45 39 60.2	62.5	63.0	59.0	61.8	60.4	61.15	30.045	.067	29.845
	29	B. A. C. 7851, S. P.		3	5–1.	34 19 59.8	63.4	62.9	59.6	61.0	60.6	61.22	28.852	.865	
	30	Moon S. L.		5	I–IX.	126 4 59.4	61.9	59.8	54.7	59.9	57.5	58.87	25.975	.990	29.844
	31	Venus, centre		4	VI–IX.	149 4 58.0	61.8	58.9	57.8	58.0	55.1	58.27	30.072	.127	29.946
23	32	Sun N. L.		4	I–IV.	138 34 58.1	62.0	56.8	55.9	59.8	58.0	58.43	38.326	.355	
	33	Sun S. L.		4	VI–IX.	139 4 57.3	60.3	55.1	53.9	58.3	55.7	56.77	33.768	.776	29.916
	34	Nadir 22h. 36m.		3		269 59 58.9	57.3	55.4	52.0	57.3	57.3	56.37*d*	29.757	.774	
	35	*δ* Ursæ Minoris		5	III–VII.	42 19 60.9	64.4	62.5	59.6	63.1	62.1	62.10	32.491	.498	29.761
	36	*α* Lyræ		5	I–IX.	90 14 60.0	63.2	60.4	56.8	60.6	61.1	60.35	31.306	.312	
	37	Venus, centre		2	I, IX.	148 55 59.6	60.5	57.4	55.4	58.2	57.1	58.03	32.346	.387	29.772
	38	Mercury		1	VII½.	147 24 60.4	61.8	59.5	54.8	58.5	58.9	58.98	24.110	.149	29.784
24	39	Sun N. L.		3	I–IV.	138 9 60.4	62.5	57.0	55.0	61.0	60.3	59.37	32.583	.592	
	40	Sun S. L.		3	VI–VIII.	138 39 61.2	63.0	57.4	55.6	60.6	60.3	59.68	28.194	.223	29.778
	41	*ε* Ursæ Minoris, S. P.		3	VI.	31 9 60.9	62.0	61.9	59.5	61.0	61.0	61.05	29.274	.339	
	42	Nadir 5h. 30m.		4		269 59 60.6	59.9	59.2	55.1	58.8	58.8	58.73	29.798	.808	
	43	*ε* Draconis, S. P.		3	VI–IV.	17 44 61.1	62.2	62.9	59.4	60.9	59.4	60.98	28.647	.656	29.925
	44	*α* Orionis		4	I–IV.	121 29 61.5	62.8	60.1	57.5	59.5	60.2	60.27	28.978	.978	
	45	*α* Orionis, (Ref.)		2	VI, VIII.	238 29 60.5	59.2	60.9	57.1	61.0	62.8	60.25	30.784	.804	
	46	35 Draconis, S. P.	5	5	VII–III.	25 54 60.3	62.8	62.4	58.6	59.1	59.7	60.48	31.517	.557	
	47	Lacaille 2190	7.0	5	III–VII.	152 44 60.7	60.9	61.4	57.5	58.5	59.6	59.77	35.815	.826	
	48	Lacaille 2208	7.2	3	III–VII.	" " "	"	"	"	"	"	"	13.313	.342	
	49	*δ* Ursæ Minoris, S. P.	4.5	3	V–1.	35 29 60.9	61.7	61.9	59.4	60.1	61.0	60.83	27.881	.895	
	50	B. A. C. 2095	5.8	3	IV–VI.	49 9 60.7	62.9	62.3	60.1	62.4	63.0	61.90	25.632	.617	29.946
	51	51 Cephei		3	1.	41 39 61.6	64.3	63.8	61.2	63.2	63.3	62.90	30.111	.133	
	52	*α* Canis Majoris		1	V.	145 24 61.5	62.2	60.5	56.0	60.2	60.1	60.08	30.896	.910	
	53	50 Draconis, S. P.	5	5	VII–III.	24 9 61.1	63.1	62.9	60.3	60.3	60.4	61.35	26.062	.114	
	54	4 (Hev.) Draconis		3	III–IV.	50 29 60.3	65.1	63.5	63.2	60.4	61.2	62.28	25.243	.214	
	55	Moon S. L.		5	II–VIII.	134 9 60.1	64.9	62.0	62.1	59.2	59.5	61.30	28.413	.430	29.976
	56	Nadir 12h. 20m.		5		269 59 61.9	64.9	63.4	62.9	59.6	59.5	62.03	29.903	.917	
25	57	Venus, centre		4	VI–IX.	148 29 60.9	63.4	62.0	60.0	57.3	56.2	59.97	31.045	.083	29.810
26	58	Sun S. L.		4	I–IV.	137 54 60.9	65.5	61.2	59.8	60.2	58.1	60.95	27.282	.313	
	59	Sun N. L.		4	VI–IX.	137 24 60.1	65.0	60.6	59.9	59.9	57.6	60.52	31.740	.746	29.871
	60	Lacaille 1540		1	V.	154 49 59.5	62.4	61.1	59.0	58.0	57.5	59.58	29.164	.191	30.027
	61	*ι* Aurigæ		5	III–VII.	95 54 60.2	64.3	63.1	60.4	60.2	60.6	61.47	33.660	.656	
	62	*ε* Leporis		5	I–IX.	151 24 59.9	62.0	62.9	59.9	58.5	56.3	59.92	28.984	.013	
	63	Uranus		2	II, VI.	105 34 59.4	63.0	61.3	59.6	58.6	59.7	60.27	30.821	.810	
	64	ψ^1 Draconis, S. P.	5	5	VII–III.	21 9 59.6	63.4	62.2	63.1	58.0	57.8	60.68	31.947	.988	30.054

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1									Ha.	
2	18.0	12.5	29.807	— 2 5.4	— 4 16.7	111 13 38.9	+ 17 40 0.3			
3	12.7	10.9	29.860	— 1 12.8	+ 1 44.0	149 45 31.2	— 20 51 52.0		N.	Very unsteady.
4	- -	- -	- -	+ 2 1.2	1 9.1	139 58 11.0	— 11 20 42.9			[uncertain.
5	19.6	15.6	- -	— 38.7	1 10.4	140 30 33.2				Image excessively bad. Result will be very
6										Image vibrating.
7	20.0	15.0	- -	+ 32.6	17.6	105 35 52.4	+ 23 17 46.8			Image undulating.
8	19.3	14.5	- -	— 38.9	1 31.9	145 25 51.9	— 16 32 12.7	+ 31.3		
9	- -	- -	- -	1 27.6	+ 1 28.3	144 20 1.2	— 15 26 22.0	37.7		
10	- -	- -	- -	— 9.6	— 1 0.8	46 13 51.0	+ 82 39 48.2	17.1		
11	- -	- -	- -	+ 2 29.4	11.8	259 27 17.4	28 20 56.6	+ 42.6		
12	18.5	13.4	- -	— 55.8	1 21.8	37 47 44.2	88 54 4.9	— 39.8		
13	- -	- -	- -	59.8	21 21.2	113 42 40.1				Blurred.
14	18.0	13.2	- -	— 1 4.6	— 21 45.8	114 12 8.8	+ 14 56 14.8			Fair observation.
15	21.0	22.1	29.825	+ 5.9	+ 1 39.6	149 36 45.1	— 20 42 58.2		Ha.	
16	- -	- -	- -	— 9.6	1 39.6	149 36 29.6				
17	27.5	32.4	- -	1 51.9	1 6.2	140 9 11.5	— 10 59 20.6			
18	- -	- -	- -	4 13.5	1 4.8	139 36 48.1				
19										
20	- -	- -	29.895	— 2 3.3	+ 34.2	299 58 29.8	+ 68 52 9.0	+ 42.0	N.	
21	40.5	39.0	- -	+ 2 2.0	— 34.2	60 1 30.3	68 52 9.0	+ 42.0		
22	- -	- -	- -	— 1 26.8	1 59.8	26 11 35.2	77 17 55.9	— 42.7		
23	40.8	39.2	- -	+ 21.8	2 33.2	20 57 20.5	72 4 11.2	— 43.7		
24	- -	- -	- -	— 1 43.9	32.6	61 12 45.9	67 40 53.3	+ 63.6		
25										
26	- -	- -	- -	— 40.2	— 55.4	46 58 24.3	81 55 14.9	68.0		
27	41.0	38.0	- -	+ 39.8	+ 55.4	313 1 34.5	81 55 13.8	68.0		
28	40.8	38.1	- -	— 5.4	— 58.0	45 38 57.7	83 14 41.5	+ 83.6		
29	- -	- -	- -	+ 32.3	1 26.8	34 19 6.7	85 25 27.4	— 84.2		
30	40.8	37.4	- -	+ 2 2.4	— 45 50.7	125 21 10.5	+ 3 32 28.7			
31	40.0	44.2	- -	— 7.3	+ 1 32.0	149 6 22.9	— 20 12 43.7		Ha.	
32	- -	- -	- -	4 25.1	58.3	138 31 31.6	— 9 54 3.9			
33	46.5	57.5	- -	2 1.6	+ 59.5	139 3 54.6				
34										
35	47.0	46.8	- -	1 21.6	— 1 3.9	42 17 36.6	+ 86 36 2.6	+ 5.3	N.	
36	- -	- -	- -	44.4	+ 0.2	90 14 16.1	+ 38 39 23.1	— 2.1		
37	50.7	53.9	- -	— 1 18.1	1 28.9	148 56 8.8	— 20 2 29.6			
38	52.0	54.5	29.850	+ 2 58.7	1 22.8	147 29 20.4	18 35 41.2			Glimpse between clouds.
39	- -	- -	- -	— 1 25.9	57.3	138 9 30.7	— 9 32 0.6			Missed wire II.
40	54.2	55.5	- -	+ 51.0	+ 58.4	138 41 49.0				Cloudy; undulating.
41	- -	- -	- -	16.0	— 1 36.8	31 8 40.2	+ 82 15 1.0	+ 37.6		Middle reading at wire VI.
42										
43	49.0	44.0	- -	37.4	— 3 1.7	17 42 36.6	68 48 57.4	22.9		
44	- -	- -	- -	+ 27.4	+ 36.1	121 31 3.7	7 22 35.5	5.5		
45	- -	- -	- -	— 29.9	— 36.1	238 28 54.3	7 22 33.5	5.5		Blurred. Wt. = 2—.
46	- -	43.8	- -	53.5	— 2 0.7	25 52 6.2	+ 76 58 27.0	15.1		
47	- -	- -	- -	— 3 7.3	+ 1 53.7	152 43 46.1	— 23 50 6.9	21.9		
48	- -	- -	- -	+ 8 37.2	+ 1 54.7	152 55 31.6	— 24 1 52.4	23.2		Perhaps 1 rev. too great.
49	- -	- -	- -	1 1.3	— 1 22.4	35 29 39.7	+ 86 36 0.5	+ 5.6		
50	48.2	43.0	- -	+ 2 12.6	50.9	49 11 23.6	79 42 15.6	— 0.5		
51	- -	- -	- -	— 8.9	— 1 6.3	41 38 47.7	+ 87 14 51.5	+ 3.7		At and near wire 1.
52	- -	- -	- -	— 33.2	+ 1 25.6	145 25 52.4	— 16 32 13.2	+ 31.7		
53	- -	40.4	- -	+ 1 57.1	— 2 11.3	24 9 47.1	+ 75 16 7.9	— 8.3		
54	- -	- -	- -	2 25.3	48.9	50 31 38.6	+ 78 22 0.6	+ 99.1		
55	40.0	33.8	- -	+ 44.5	— 52 28.9	134 3 16.9	— 5 9 37.7			Wires III and VII omitted. Circle reading
56										appears 45′ too small.
57	43.0	41.0	29.810	— 39.9	+ 1 30.0	148 30 50.0	— 19 37 10.8			
58	- -	- -	29.800	+ 1 17.9	58.8	137 57 17.7				
59	44.4	42.2	- -	— 1 1.0	57.7	137 24 57.2	8 47 28.3			Barometer undulating several hundredths of
60	43.3	32.8	29.790	+ 18.8	2 8.0	154 52 26.3	— 25 58 47.1	— 13.1		an inch.
61	- -	- -	- -	— 1 38.2	6.2	95 56 45.8	+ 32 56 53.4	26.6		Whole rev. recorded 33.
62	- -	- -	- -	+ 24.4	1 50.6	151 27 14.9	— 22 33 35.7	— 4.1		Micrometer readings by Mr. Penniman.
63	- -	- -	- -	— 32.0	+ 16.8	115 34 45.0	+ 23 18 54.3			Micrometer readings by Mr. Penniman.
64	39.3	32.0	- -	— 1 8.9	— 2 35.5	21 6 16.2	+ 72 12 37.0	+ 20.3		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Feb. 26	1	ξ Draconis, S. P.		4	IV–I.	5 54 56.6	60.5	60.0	59.3	54.1	54.7	57.53	27.780	.808	
	2	B. A. C. 1995	6.5	5	III–VII.	155 54 60.3	63.5	62.4	61.4	58.3	56.0	60.32	21.577	.584	
	3	Lacaille 2177	7.5	1	V.	" " "	"	"	"	"	"	"	32.798	.805	
	4	Lacaille 2208	7.2	5	III–VII.	152 49 60.6	64.0	64.4	62.5	58.8	58.4	61.45	23.035	.060	
	5	B. A. C. 2095	5.5	5	III–VII.	49 9 59.8	65.2	63.0	64.5	59.5	61.1	62.18	25.542	.505	30.058
	6	α Canis Majoris		5	I–IX.	145 19 58.6	63.0	60.2	59.0	57.4	56.2	59.07	21.276	.311	
	7	Nadir 7h. 20m.		3		269 59 59.8	63.2	61.3	61.5	57.4	56.9	60.02	29.770	.787	
	8	Venus, centre		5	III–VII.	148 14 60.9	65.3	62.9	63.1	58.0	55.0	60.87	27.202	.232	30.256
27	9	Sun N. L.		4	I–IV.	137 4 60.0	66.2	61.4	61.5	60.3	58.1	61.25	36.433	.453	30.240
	10	Sun S. L.		4	VI–IX.	137 34 61.9	67.9	62.2	62.8	61.9	59.0	62.62	32.138	.167	
	11	Nadir 1h. 18m.		3		269 59 58.4	59.8	58.0	56.7	57.9	57.5	58.05*d*	29.782	.798	
	12	α^1 Geminorum		5	I–IX.	96 44 58.4	66.1	62.5	61.2	63.0	60.5	61.95	34.317	.326	
	13	α^2 Geminorum		4	II–VIII.	" " "	"	"	"	"	"	"	34.404	.411	30.100
	14	α Canis Minoris		5	III–VII.	123 19 58.1	63.4	59.8	58.6	58.5	57.1	59.25	31.765	.769	
	15	6 Cancri		5	III–VII.	100 44 58.5	61.1	58.0	57.1	58.2	57.0	58.32	33.122	.144	
	16	ρ Argus		5	III–VII.	152 49 58.1	62.4	61.0	59.0	58.5	57.4	59.40	35.766	.774	
	17	λ Cancri		5	III–VII.	104 24 58.0	63.4	60.0	59.1	59.5	57.1	59.52	26.561	.562	30.080
	18	Nadir 8h. 22m.		3		269 59 59.0	63.2	59.9	60.0	58.9	58.8	59.97*d*	29.862	.873	
Mar. 1	19	Moon S. L.		2	VIII, IX.	150 29 60.2	63.4	63.1	63.6	57.1	56.7	60.68	25.195	.229	30.009
	20	Venus		5	I–IX.	147 19 59.9	65.8	64.0	64.4	57.5	56.8	61.40	31.970	.996	30.041
	21	Nadir 22h. 45m.		2		269 59 60.0	65.4	62.4	64.7	58.4	58.8	61.62	29.912	.926	
2	22	Sun N. L.		4	I–IV.	135 29 59.5	67.1	63.8	63.8	60.7	58.4	62.22	28.893	.912	
	23	Sun S. L.		4	VI–IX.	135 59 58.6	67.0	63.1	63.1	60.4	57.2	61.57	24.405	.424	30.060
	24	α Canis Majoris, (Ref.)		3	II–VIII.	214 34 59.6	61.5	63.0	62.8	56.4	57.9	60.20	28.823	.837	30.139
	25	50 Draconis, S. P.		3	VI–IV.	24 9 59.5	64.5	63.4	64.6	59.4	58.0	61.57	26.052	.086	
	26	B. A. C. 2326		3	1–5.	46 14 59.8	65.2	64.4	63.8	61.0	59.2	62.23	30.364	.385	
	27	α Canis Minoris, (Ref.)		4	I–IV.	236 39 59.3	62.4	63.3	62.2	59.5	59.4	61.02	27.961	.965	
	28	α Canis Minoris		4	VI–IX.	123 19 59.1	64.0	61.7	61.5	56.8	55.9	59.83	31.810	.832	30.158
	29	B. A. C. 2606	7	5	III–VII.	81 9 59.5	65.9	63.9	63.6	59.7	60.0	62.10	30.247	.266	
	30	O. Arg. N. 8459	8	1	V.	81 54 59.5	64.3	62.0	62.8	59.8	58.4	61.13	30.360	.382	
	31	Nadir 8h. 5m.		7		269 59 59.5	62.5	60.8	61.6	57.9	56.7	59.83	29.841	.853	
	32	Iris	8	1	V.	136 44 58.5	66.2	62.2	62.6	58.5	56.4	60.73	26.100	.125	
	33	Anon. 11h. 48m. 22s.	10	1	IX.	" " "	"	"	"	"	"	"	26.018	.069	30.231
	34	Venus, centre		5	III–VII.	147 4 59.5	64.5	61.2	63.2	57.3	54.8	60.08	33.271	.301	30.400
	35	Mercury, centre		5	III–VII.	145 14 59.0	66.9	61.2	62.8	59.1	56.3	60.88	31.352	.377	30.404
3	36	Sun S. L.		4	I–IV.	135 39 59.0	67.5	62.1	62.9	61.6	58.0	61.85	30.170	.202	30.380
	37	Sun N. L.		4	VI–IX.	135 9 60.4	59.0	63.1	64.1	62.7	59.0	61.38	34.803	.811	
	38	Nadir		3		269 59 60.7	64.9	60.7	62.9	59.9	59.0	61.35	29.925	.935	
	39	Polaris		5		40 19 61.8	67.4	64.5	67.2	63.0	62.2	64.35	31.110	.058	30.308
	40	Dorpat 900	5	5	III–VII.	124 14 60.0	65.1	61.1	60.9	61.1	60.1	61.38	32.550	.558	30.260
	41	11 Monocerotis		1	IV.	135 49 59.7	65.2	61.3	60.9	61.0	58.2	61.05	30.338	.349	
	42	11 Monocerotis, comp.		1	V.	" " "	"	"	"	"	"	"	30.150	.167	
	43	α Canis Majoris		5	III–VII.	145 24 59.9	64.8	61.2	60.0	60.3	58.0	60.70	30.978	.988	30.260
	44	α Canis Minoris		5	III–VII.	123 19 59.8	64.6	61.1	61.1	58.2	57.7	60.42	31.841	.842	30.250
	45	B. A. C. 2606	6	5	III–VII.	81 9 60.8	67.4	63.9	64.0	62.1	61.8	63.33	30.359	.369	
	46	O. Arg. N. 8445	9	1	V.	81 49 61.2	66.4	63.9	63.5	62.2	61.0	63.03	42.291	.310	
	47	O. Arg. N. 8459	7	3	IV–VI.	" " "	"	"	"	"	"	"	20.838	.837	30.250
	48	Nadir 9h. 10m.		3		269 59 59.3	64.3	60.9	61.8	58.5	57.6	60.40	29.882	.893	
	49	Iris	8.5	5	III–VII.	136 39 59.0	66.9	61.9	63.1	59.3	56.9	61.18	25.862	.865	30.182
4	50	Sun S. L.		4	I–IV.	135 14 58.5	65.4	59.6	61.0	62.2	60.2	61.15	26.527	.541	
	51	Sun N. L.		4	VI–IX.	134 44 58.4	65.5	58.9	60.3	61.2	59.1	60.57	30.849	.852	29.955
	52	Nadir 23h. 15m.		3		269 59 59.4	59.9	56.5	58.2	58.0	60.2	58.70	29.826	.838	
5	53	O. Arg. S. 7882	7	5	III–VII.	153 4 60.8	63.1	61.8	61.8	58.5	60.8	61.13	28.932	.940	29.660
	54	15 Argus		5	III–VII.	152 49 60.8	64.2	62.6	62.0	59.1	60.2	61.48	35.766	.770	
	55	O. Arg. S. 8072		1	V.	" " "	"	"	"	"	"	"	26.805	.806	
	56	Dorpat 1243		4	I, IV, VI, IX	121 49 61.1	65.3	62.0	61.6	59.3	60.3	61.60	34.211	.226	29.664
	57	Dorpat 1243, comp.		3	II–VIII.	" " "	"	"	"	"	"	"	34.532	.540	
	58	Dorpat 1270	7	5	III–VII.	130 59 60.9	65.4	59.2	59.9	58.1	60.0	60.58	30.618	.623	
	59	Dorpat 1294	7.5	5	I–IX.	136 24 61.3	67.2	62.3	61.1	60.9	61.4	62.37	39.251	.273	29.664
	60	Dorpat 1294, comp.	7.5	4	II–VIII.	" " "	"	"	"	"	"	"	39.435	.452	
	61	Anon. 9h. 2m. 39s.	9	1	IX.	152 9 61.7	65.0	63.0	62.2	60.0	60.7	62.10	24.421	.481	
	62	Carrington 1381		5	1–5.	46 59 60.2	63.8	62.0	62.9	60.2	61.5	61.77	31.298	.316	29.666
	63	Nadir 9h. 27m.		3		269 59 60.0	64.7	60.5	61.6	58.8	59.4	60.88*d*	29.897	.901	
	64	Iris		1	VII.	136 29 60.6	67.1	61.7	62.1	61.0	60.2	62.12	26.338	.366	29.662

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARNS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.790	+ 1 2.1	— 8 55.1	5 47 4.5	+ 56 53 25.3	+ 17.2	N.	
2	. .	. .	. .	+ 4 17.1	+ 2 15.3	156 1 32.7	— 27 7 53.5	21.7		
3	. .	. .	. .	— 1 34.5	2 14.7	155 55 40.5	27 2 1.3	22.0		
4	. .	. .	. .	+ 3 30.9	+ 1 58.0	152 55 30.3	— 24 1 51.1	+ 23.4		Whole rev. recorded 22. See Feb. 21, 1865.
5	38.0	31.8	. .	2 14.3	— 52.3	49 11 24.1	+ 79 42 15.1	— 0.8		
6	. .	. .	. .	4 25.7	+ 1 27.7	145 25 52.4	— 16 32 13.2	+ 31.9		
7										
8	39.0	39.8	29.867	+ 1 22.6	1 31.0	148 17 54.4	19 24 15.2		Ha.	Very unsteady.
9	45.0	47.0	. .	— 3 26.4	57.1	137 2 31.9 }	— 8 25 1.1			
10	. .	. .	. .	1 12.1	58.2	137 34 48.7 }				Very tremulous and unsteady.
11										
12	. .	. .	. .	2 19.7	7.0	96 42 49.2	+ 32 10 50.0	36.7		
13	45.0	39.0	. .	2 22.4	7.0	96 42 46.5	32 10 52.7	36.7		
14	. .	. .	. .	59.6	39.3	123 19 38.9	5 34 0.3	46.0		
15	. .	. .	. .	1 42.7	11.3	100 43 26.9	+ 28 10 12.3	48.7		
16	. .	. .	. .	— 3 5.1	1 56.0	152 48 50.3	— 23 55 11.1	61.2		
17	44.5	37.4	. .	+ 1 43.6	+ 15.4	104 26 58.5	+ 24 26 40.7	55.6		
18										
19	40.5	24.8	. .	+ 2 25.3	— 65 9.0	149 27 17.0	— 20 33 37.8		N.	
20	35.7	32.8	. .	— 1 6.7	+ 1 28.3	147 20 23.0	18 26 43.8			
21										
22	. .	. .	. .	+ 29.9	54.9	135 31 27.0 }	6 53 58.3			
23	41.0	36.8	. .	2 50.6	+ 56.0	136 3 48.1 }				This limb blurred.
24	41.3	35.0	. .	32.3	— 1 27.4	214 34 5.1	— 16 32 15.6	+ 32.3		
25	. .	34.7	. .	+ 1 58.5	2 13.8	24 9 46.2	+ 75 16 7.0	— 7.2		
26	. .	. .	. .	— 16.2	57.9	46 13 48.2	82 39 51.1	+ 14.5		
27	. .	. .	. .	+ 59.6	— 39.8	236 40 20.8	5 34 0.1	46.3		
28	40.5	33.9	. .	— 1 1.8	+ 39.8	123 19 37.8	5 34 1.4	46.3		
29	. .	. .	. .	12.5	— 9.4	81 9 40.2	47 43 59.0	39.4		
30	. .	. .	. .	— 16.1	— 8.6	81 54 36.4	+ 46 59 2.8	41.7		
31										Very good.
32	. .	. .	. .	+ 1 57.2	+ 1 5.0	136 48 2.9	— 7 54 23.7			
33	37.0	30.3	. .	+ 1 59.0	1 5.0	138 48 4.7	7 54 25.5	+ 96.6		
34	35.5	35.1	29.896	— 1 46.7	1 28.1	147 4 41.4	18 11 2.2		Ha.	Blurred and unsteady.
35	38.0	36.6	. .	46.4	1 21.2	145 15 35.6	16 21 56.4			
36	42.0	38.9	. .	9.6	55.6	135 40 47.8 }	— 6 30 55.6			
37	. .	. .	. .	2 34.0	+ 54.5	135 8 21.8 }				Observed semi-diameter suspiciously large.
38										
39	43.0	42.7	29.892	36.5	— 1 10.3	40 18 17.5	+ 88 35 21.7	— 94.6		At intervals of 30s. from 1h. 14m. 43s. to
40	42.5	37.5	29.877	1 24.0	+ 41.0	124 14 18.3	+ 4 39 20.9	+ 18.1		1h. 16m. 43s.
41	. .	. .	. .	14.8	1 2.1	135 50 48.3	— 6 57 9.1	23.8		
42	. .	. .	. .	9.1	1 2.1	135 50 54.0	6 57 14.8	23.8		
43	42.0	36.0	. .	34.8	1 27.5	145 25 53.4	— 16 32 14.2	32.7		
44	41.0	34.9	. .	1 1.6	+ 39.8	123 19 38.6	+ 5 34 0.6	46.3		
45	. .	. .	. .	15.4	— 9.4	81 9 38.5	47 44 0.7	39.3		
46	. .	. .	. .	— 6 29.6	8.8	81 43 24.6	47 10 14.6	41.0		
47	40.5	34.2	. .	+ 4 43.2	— 8.6	81 54 37.6	+ 46 59 1.6	41.5		
48										
49	37.0	30.6	. .	2 5.7	+ 1 4.7	136 43 11.5	— 7 49 32.3			
50	. .	. .	. .	+ 1 44.5	52.2	135 17 37.8 }	6 7 50.3		N.	
51	47.0	53.6	. .	— 30.5	51.2	134 45 21.2 }				Very good observations.
52										
53	43.0	39.1	. .	+ 29.4	1 55.6	153 7 26.1	24 13 46.9	61.1	Ha.	
54	. .	. .	. .	— 3 4.6	1 54.1	152 48 50.9	23 55 11.7	62.4		
55	. .	. .	. .	+ 1 36.2	1 54.5	152 53 32.1	— 23 59 52.9	62.8		
56	44.0	38.4	. .	— 2 16.3	36.6	121 48 21.9	+ 7 5 17.3	64.7		} Double.
57	. .	. .	. .	2 26.1	36.5	121 48 12.0	+ 7 5 27.2	64.7		
58	. .	. .	. .	23.4	51.3	131 0 28.4	— 2 6 49.2	69.4		
59	43.0	38.3	. .	4 54.4	1 1.8	136 21 9.7	7 27 30.5	73.2		} Close double.
60	. .	. .	. .	— 5 00.0	1 1.8	136 21 4.1	7 27 24.9	73.2		
61	. .	. .	. .	+ 2 49.1	+ 1 51.7	152 14 42.9	— 23 21 3.7	78.6		
62	43.0	37.6	. .	— 45.1	— 55.1	46 58 21.5	+ 81 55 17.7	+ 64.6		
63										
64	42.0	36.2	. .	+ 1 50.0	+ 1 2.5	136 32 54.6	— 7 39 15.4			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Mar. 6	1	Venus		5	III–VII.	145 54 58.2	64.7	61.2	61.6	57.5	57.8	60.17	29.290	.311	29.740
	2	Mercury		5	III–VII.	143 34 58.1	63.5	60.7	60.9	57.0	56.6	59.47	27.542	.553	29.740
7	3	Sun N. L.		4	I–IV.	133 34 59.2	65.8	60.0	60.9	59.4	60.4	60.95	30.345	.367	
	4	Sun S. L.		4	VI–IX.	134 4 57.5	63.2	59.1	59.3	58.0	58.4	59.25	26.070	.082	29.744
	5	Uranus		5	I–IX.	105 34 59.3	65.1	60.9	60.8	61.6	61.4	61.52	28.859	.850	
	6	*α* Canis Majoris, (Ref.)		5	I–IX.	214 34 58.6	57.9	58.9	58.4	55.2	59.2	58.03	28.862	.857	29.727
	7	B. A. C. 2326		3	IV–V.	46 14 59.9	63.9	62.0	61.4	61.2	61.2	61.60	30.443	.439	
	8	*δ* Draconis, S. P.	3.8	3	III–I.	16 19 59.6	62.2	61.9	60.1	58.8	58.0	60.10	25.740	.796	29.735
	9	Nadir 8h.		3		269 59 59.9	62.0	60.2	59.3	58.9	59.0	59.88	29.839	.842	
	10	O. Arg. S. 11311	8.8	1	V.	158 34 60.2	64.9	63.0	63.5	59.5	57.6	61.45	32.588	.595	29.737
	11	*τ* Cassiopeæ, S. P.		5	III–VII.	6 54 60.3	65.1	63.6	64.5	58.9	57.8	61.70	29.634	.652	
	12	*γ* Ursæ Majoris		2	III, IV.	74 24 59.9	65.6	64.5	64.7	60.9	61.5	62.85	25.821	.799	
	13	*γ* Ursæ Majoris, (Ref.)		4	VI–IX.	285 29 60.4	62.3	61.9	60.8	59.4	59.5	60.72	24.361	.428	
	14	*o* Virginis		4	I–IV.	119 24 59.7	64.8	60.2	60.9	57.5	57.9	60.17	31.690	.672	
	15	*o* Virginis, (Ref.)		4	VI–IX.	240 34 59.8	63.2	62.1	62.7	59.9	61.6	61.55	28.035	.065	29.736
	16	*δ* Ursæ Majoris, (Ref.)		4	I–IV.	288 54 59.8	63.8	61.2	60.1	58.5	57.2	60.10	33.585	.616	
	17	*δ* Ursæ Majoris		4	IV–IX.	71 4 59.0	64.6	62.5	63.5	60.4	62.7	62.12	24.155	.149	
	18	Nadir 12h. 20m.		3		269 59 58.9	63.1	60.1	61.4	58.2	57.8	59.93*d*	29.843	.846	
8	19	O. Arg. S. 9931	7	1	V.	159 14 57.0	61.9	59.9	60.7	56.6	56.3	58.73	33.621	.626	29.968
	20	*ε* Leonis		5	III–VII.	104 29 57.7	64.7	60.4	61.8	59.0	58.2	60.30	30.438	.450	
	21	O. Arg. S. 10236	7.5	1	V.	158 19 60.8	66.7	62.8	63.8	59.6	58.1	61.97	29.625	.630	
	22	*α* Leonis		5	III–VII.	116 14 57.9	64.3	59.1	60.0	57.7	57.9	59.48	28.740	.739	29.976
	23	O. Arg. S. 10539	7	1	V.	151 9 58.1	62.9	60.6	60.4	57.7	56.5	59.37	30.804	.805	
	24	O. Arg. S. 10543	7	1	VIII.	" " "	"	"	"	"	"	"	15.618	.655	
	25	Lacaille 4286	6	1	VII.	157 19 58.5	63.3	60.0	57.0	57.3	62.0	59.68	26.272	.312	29.986
	26	*α* Ursæ Majoris, (Ref.)		4	I–IV.	293 34 58.8	63.6	61.1	60.5	58.0	58.0	60.00	30.283	.333	
	27	*α* Ursæ Majoris		4	VI–IX.	66 24 58.3	64.0	62.2	63.1	59.5	61.0	61.35	29.498	.478	29.990
	28	Nadir 11h. 15m.		3		269 59 58.9	63.8	59.6	62.1	57.3	59.0	60.12*d*	29.873	.876	
	29	Iris		1	V.	136 14 58.7	66.0	60.7	61.7	59.1	58.6	60.80	29.140	.156	
	30	Venus		5	I–IX.	145 19 58.9	65.1	61.0	62.9	58.7	58.5	60.85	33.055	.073	30.177
	31	Mercury		5	I–IX.	142 39 59.1	64.7	61.5	62.8	59.1	59.0	61.03	31.056	.073	30.182
	32	Nadir 23h. 10m.		4		269 59 59.4	62.5	59.6	60.6	58.0	59.5	59.93	29.884	.894	
9	33	Sun N. L.		4	I–IV.	132 44 59.1	63.5	59.2	60.5	57.4	57.7	59.57	24.373	.394	
	34	Sun S. L.		4	VI–IX.	133 19 58.5	63.5	58.9	58.8	57.5	58.3	59.25	29.676	.679	30.177
	35	*δ* Ursæ Min., S. P.(Ref.)		3	4–2.	324 29 58.4	58.5	57.0	52.5	56.5	56.6	56.58	31.755	.756	
	36	*δ* Ursæ Minoris, S. P.		3		35 29 61.2	63.2	60.7	61.6	61.0	62.6	61.72	28.009	.029	30.116
	37	*γ* Geminorum		4	I–IV.	112 24 59.7	62.1	57.6	56.9	59.1	60.1	59.25	34.363	.357	
	38	*γ* Geminorum, (Ref.)		4	VI–IX.	247 39 58.9	59.7	59.5	58.5	59.8	62.5	59.82	34.986	.017	
	39	*α* Canis Majoris		4	VI–IX.	145 24 59.4	61.0	57.9	55.5	58.2	59.5	58.58	30.848	.873	
	40	50 Draconis, S. P., (Ref.)		1	V.	335 49 61.4	63.1	61.7	56.8	59.4	60.0	60.40	33.654	.658	
	41	*m* Puppis	5	5	I–IX.	153 54 60.5	62.4	60.2	58.0	58.1	59.2	59.73	28.916	.933	30.125
	42	Nadir 7h. 50m.		4		269 59 59.9	61.5	58.2	58.4	59.0	60.9	59.65	29.893	.899	
	43	Anon. 7h. 53m. 9s.	8	5	III–VII.	166 4 60.5	63.5	60.2	60.8	60.0	60.5	60.92	33.725	.730	
	44	Lacaille 3127	6	5	III–VII.	154 9 61.1	62.6	60.9	58.0	59.1	59.2	60.15	28.130	.148	
	45	Lacaille 3168	6.2	1	V.	166 9 60.1	63.4	60.7	61.4	59.9	60.6	61.02	35.186	.203	
	46	O. Arg. S. 8291	8.5	1	V.	153 39 61.3	63.3	60.6	59.3	58.7	59.9	60.52	27.686	.688	
	47	B. A. C. 2838	5.7	5	III–VII.	170 29 60.3	63.2	62.1	61.5	59.7	60.0	61.13	28.114	.135	30.142
	48	B. A. C. 8213, S. P.		2	2, 1.	35 29 60.8	63.6	62.4	64.1	60.2	60.9	62.00	32.538	.548	30.099
11	49	Venus, centre		5	III–VII.	144 19 58.2	62.2	57.5	58.7	57.7	57.9	58.70	30.687	.687	29.820
	50	Mercury, centre		5	III–VII.	141 4 57.8	60.7	56.2	58.0	57.0	57.0	57.78	30.270	.291	29.830
12	51	Sun S. L.		4	I–IV.	132 9 58.0	61.5	55.0	55.5	56.3	56.0	57.05	30.902	.909	
	52	Sun N. L.		4	VI–IX.	131 39 56.9	60.6	54.8	55.0	56.9	55.9	56.68	35.080	.092	29.840
	53	Weisse VII, 461	8	1	V.	143 44 60.7	62.6	58.7	58.0	59.9	61.0	60.15	34.771	.772	
	54	Anon. 7h. 17m. 27s.	7.5	1	V.	" " "	"	"	"	"	"	"	20.648	.652	
	55	Anon. 7h. 19m. 14s.	7.5	1	V.	" " "	"	"	"	"	"	"	18.474	.487	
	56	Anon. 7h. 20m. 10s.	9	1	VIII.	" " "	"	"	"	"	"	"	48.953	.985	
	57	Anon. 7h. 23m. 12s.	6	5	III–VII.	" " "	"	"	"	"	"	"	48.379	.398	29.866
	58	Anon. 7h. 33m. 47s.	7.5	5	III–VII.	152 49 61.0	63.0	60.0	59.0	59.2	61.7	60.65	35.008	.020	
	59	Lalande 15006		1	VII.	" " "	"	"	"	"	"	"	30.365	.402	
	60	O. Arg. S. 7865	7.5	5	III–VII.	154 34 60.5	64.0	59.0	58.0	59.1	61.1	60.28	33.176	.197	
	61	Anon. 7h. 58m. 3s.	7.5	1	V.	" " "	"	"	"	"	"	"	38.431	.446	29.870
	62	Lacaille 3201	6	1	V.	170 9 60.0	63.0	61.1	60.2	59.1	60.1	60.58	26.799	.800	
	63	Lacaille 3262	6	3	IV–VI.	162 59 60.0	62.8	59.0	59.5	59.0	60.3	60.10	28.356	.375	29.868
	64	Nadir 8h. 39m.		5		269 59 59.4	61.5	57.5	57.9	58.0	62.1	59.40*d*	29.885	.889	
	65	Iris	9	1	V.	135 54 59.2	64.2	59.2	59.1	59.4	61.5	60.43	36.178	.195	29.846
	66	*β* Leonis		5	III–VII.	113 34 59.2	64.0	60.0	60.4	58.2	61.8	60.60	32.668	.670	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	41.0	40.9	29.847	+ 16.8	+ 1 21.4	145 56 38.3	— 17 2 59.1		N.	Very tremulous.
2	43.2	43.0	. .	+ 1 11.9	1 13.6	143 37 24.9	14 43 45.7			
3	. .	. .	. .	— 16.3	49.4	133 35 34.0	— 4 58 1.6			Blurred.
4	46.5	46.9	. .	+ 1 58.0	50.3	134 7 47.5				Average.
5	. .	. .	. .	31.2	+ 16.4	105 35 49.1	+ 23 17 50.1			Very steady.
6	48.2	43.4	. .	+ 31.0	— 1 24.7	214 34 4.3	— 16 32 16.4	+ 32.8		
7	. .	. .	. .	— 18.5	56.2	46 13 46.9	+ 82 39 52.3	+ 13.7		
8	47.3	40.6	. .	+ 2 6.9	— 3 17.8	16 18 49.2	+ 67 25 10.0	— 14.8		
9										
10	41.3	33.5	. .	— 1 26.1	+ 2 31.1	158 36 6.4	— 29 42 27.2	+ 95.5		Bar. recorded 29.437.
11	. .	. .	. .	+ 6.1	— 7 41.3	6 47 26.5	+ 57 53 47.3	— 87.8		
12	. .	. .	. .	2 6.8	— 16.6	74 26 53.0	54 26 46.2	+ 97.1		
13	. .	. .	. .	+ 2 49.8	+ 16.6	285 33 7.1	54 26 46.4	97.1		
14	. .	. .	. .	— 57.2	+ 33.7	119 24 36.6	9 29 2.6	98.2		
15	40.0	32.8	. .	+ 55.8	— 33.7	240 35 23.6	9 29 2.9	98.2		
16	. .	. .	. .	— 1 58.1	+ 20.5	288 53 22.5	57 47 1.8	97.9		
17	. .	. .	. .	+ 1 55.9	— 20.5	71 6 37.5	+ 57 47 1.5	97.9		Mic. rev. probably 26. Reduction made for that number.
18										
19	42.0	36.4	29.872	— 1 57.6	+ 2 36.5	159 15 37.6	— 30 21 58.4	85.5	Ha.	
20	. .	. .	. .	— 18.1	15.5	104 29 57.7	+ 24 23 41.5	80.2		
21	. .	. .	. .	+ 7.6	2 29.9	158 22 39.4	— 29 29 0.2	88.6		
22	42.0	35.5	. .	+ 35.5	29.6	116 16 4.5	+ 12 37 34.7	87.0		
23	. .	. .	. .	— 29.2	1 48.6	151 11 18.7	— 22 17 39.5	91.7		
24	. .	. .	. .	+ 7 25.5	1 49.2	151 19 14.0	22 25 34.8	91.7		
25	41.5	35.4	. .	+ 1 51.5	2 23.1	157 24 14.2	— 28 30 35.0	92.4		
26	. .	. .	. .	— 14.4	+ 26.2	293 35 11.8	+ 62 28 51.0	89.9		
27	41.0	34.6	. .	+ 12.3	— 26.2	66 24 47.4	+ 62 28 51.8	89.9		
28										
29	. .	33.1	. .	+ 22.4	+ 1 3.0	136 16 26.2	— 7 22 47.0			Exceedingly faint.
30	39.7	42.5	29.905	— 1 39.3	1 20.5	145 19 42.0	16 26 2.8		N.	Good.
31	42.7	46.1	. .	— 36.6	1 11.8	142 40 36.2	13 46 57.0			
32										
33	. .	. .	. .	+ 2 52.7	48.5	132 48 40.7	— 4 11 9.1			
34	46.1	48.9	. .	+ 7.1	49.5	133 20 55.8				
35	. .	. .	. .	— 58.0	+ 1 22.3	324 30 20.9	+ 86 35 59.9	7.0		
36	49.3	46.9	. .	+ 58.8	— 1 22.3	35 29 38.2	86 35 59.0	7.0		At 6h. 17m. 28s., 18m. 3s., and 18m. 28s.
37	. .	. .	. .	— 2 19.5	+ 24.3	112 23 4.0	16 30 35.2	19.3		
38	. .	. .	. .	2 40.2	— 24.3	247 36 55.3	+ 16 30 34.6	19.3		Very good. Wt. = 5.
39	. .	. .	. .	30.3	+ 1 25.3	145 25 53.6	— 16 32 14.4	+ 33.0		
40	. .	45.4	. .	— 1 57.6	2 10.7	335 50 13.5	+ 75 16 7.3	— 6.2		
41	48.2	43.7	. .	+ 30.4	2 0.6	153 57 30.7	— 25 3 51.5	+ 53.8		
42										
43	. .	. .	. .	— 1 59.9	3 54.2	166 6 55.2	37 13 16.0	62.2		
44	. .	42.2	. .	+ 55.0	2 1.9	154 12 56.9	25 19 17.7	62.2		
45	. .	. .	. .	— 2 46.0	3 56.4	166 11 11.4	37 17 32.2	65.3		
46	. .	. .	. .	+ 1 9.5	1 59.8	153 43 9.8	24 49 30.6	65.6		Star of 9th mag. 3′ N. and 0.6 following.
47	47.3	41.4	. .	+ 55.5	+ 5 43.3	170 36 39.9	— 41 43 0.7	+ 70.6		
48	44.3	38.5	. .	— 1 22.8	— 1 23.8	35 27 15.4	+ 86 33 36.2	— 90.0		
49	49.0	51.3	. .	24.5	+ 1 15.4	144 20 49.6	— 15 27 10.3		Ha.	
50	51.0	53.0	. .	12.1	1 6.9	141 5 52.8	12 12 13.3			
51	. .	. .	. .	31.4	49.1	132 10 14.7	3 0 29.3			
52	52.0	55.1	. .	2 42.5	48.1	131 38 2.2				
53	. .	. .	. .	— 2 32.5	1 19.3	143 43 46.9	14 50 7.7	+ 46.2		
54	. .	. .	. .	+ 4 49.9	1 19.7	143 51 9.7	14 57 30.5	46.8		
55	. .	. .	. .	+ 5 57.8	1 19.7	143 52 17.6	14 58 38.4	47.4		
56	. .	. .	. .	— 9 57.8	1 18.9	143 36 21.2	14 42 42.0	47.7		
57	53.0	47.1	. .	9 39.4	1 19.0	143 36 39.7	14 43 0.5	48.8		
58	. .	. .	. .	2 40.3	1 53.1	152 49 13.4	23 55 34.2	54.4		
59	. .	. .	. .	15.6	1 53.2	152 51 38.2	23 57 59.0	54.8		
60	. .	. .	. .	1 43.1	2 2.2	154 35 19.3	25 41 40.1	62.1		
61	52.5	46.5	. .	— 4 27.6	2 1.9	154 32 34.5	25 38 55.3	62.5		
62	. .	. .	. .	+ 1 37.3	5 26.0	170 17 3.8	41 23 24.6	67.3		
63	52.0	46.3	. .	+ 47.9	3 9.0	163 3 57.0	34 10 17.8	68.5		
64										
65	49.0	42.1	. .	— 3 17.1	1 0.6	135 52 43.9	— 6 59 4.7			
66	. .	42.1	. .	— 1 26.6	+ 25.7	113 33 59.7	+ 15 19 39.5	+ 98.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Mar. 13	1	Venus		2	IV, VI.	143 39 59.6	64.6	62.0	63.4	56.5	57.6	60.62	33.395	.413	30.079
14	2	Sun N. L.		4	I–IV.	130 59 59.3	64.8	58.6	60.9	57.0	58.3	59.82	49.022	.035	30.100
	3	Sun S. L.		3	VII–IX.	131 24 59.2	65.5	58.9	61.1	57.2	57.6	59.92	35.314	.332	- -
	4	Nadir 0h. 0m.		3	- -	269 59 60.1	64.6	60.4	63.1	58.8	61.0	61.33	29.891	.903	- -
	5	Moon S. L.		5	I–IX.	108 54 59.7	64.9	60.1	60.1	59.4	59.9	60.68	30.313	.322	30.064
15	6	Venus		4	VI–IX.	142 54 59.6	66.9	64.4	68.5	57.6	57.2	62.37	29.780	.786	29.898
17	7	Sun S. L.		4	I–IV.	130 9 58.0	64.8	57.5	62.1	57.6	57.2	59.53	27.804	.808	- -
	8	Sun N. L.		3	VI–IX.	129 39 60.1	66.5	58.6	63.1	60.2	59.4	61.33	31.996	.001	29.938
	9	Nadir 0h. 0m.		3	- -	269 59 59.2	64.1	59.0	63.0	59.2	59.8	60.72	29.900	.904	- -
	10	Moon N. L.		5	III–VII.	113 14 60.1	66.2	60.9	63.0	60.0	59.5	61.62	34.571	.576	29.852
	11	Nadir 8h. 26m.		3	- -	269 59 59.3	64.2	59.4	61.3	59.0	59.5	60.45*d*	29.904	.908	- -
	12	Venus		3	IV–VI.	142 9 60.4	64.8	60.2	61.6	59.4	59.5	60.98	28.962	.970	29.737
18	13	Sun N. L.		4	I–IV.	129 14 60.9	65.6	57.9	59.4	61.5	60.7	61.00	29.376	.395	- -
	14	Sun S. L.		4	VI–IX.	129 49 58.5	63.4	56.0	58.2	60.0	58.9	59.17	34.840	.840	29.638
	15	δ Ursæ Minoris, S. P.		3	5, 2, 1.	35 29 58.7	62.4	59.1	59.6	60.6	61.6	60.33	28.075	.088	29.545
	16	Nadir 6h. 30m.		3	- -	269 59 58.6	58.8	55.4	55.3	57.4	60.1	57.60	29.852	.864	- -
	17	α Canis Majoris		5	III–VII.	145 24 59.1	61.5	55.9	55.9	58.8	61.5	58.78	30.791	.794	- -
	18	Venus, centre		5	III–VII.	141 49 60.9	65.5	60.6	62.3	59.6	59.8	61.45	34.397	.415	29.832
19	19	Sun S. L.		4	I–IV.	129 24 60.2	65.2	57.8	61.0	61.1	61.4	61.12	32.272	.293	29.802
	20	Sun N. L.		4	VI–IX.	128 54 61.0	66.9	59.0	62.2	62.6	63.0	62.45	36.520	.528	- -
	21	Nadir 0h. 12m.		3	- -	269 59 60.0	63.0	58.3	60.4	59.5	60.0	60.20	29.872	.883	- -
21	22	Nadir 7h. 30m.		3	- -	269 59 58.2	63.8	59.2	63.2	57.3	57.1	59.80	29.895	.899	- -
	23	Anon. 7h. 34m. 18s.	7.8	4	VI–IX.	163 24 58.5	64.1	61.5	63.6	57.9	56.7	60.38	37.779	.813	30.073
	24	Anon. 7h. 53m. 11s.		1	V.	166 4 57.8	64.5	60.2	65.7	57.3	56.5	60.33	33.927	.932	- -
	25	Anon. 8h. 22m. 10s.	7.5	1	V.	163 29 59.0	65.4	62.0	64.9	58.7	57.2	61.20	39.952	.958	- -
	26	O. Arg. S. 8654	7.3	1	V.	154 4 58.6	65.6	62.0	64.0	57.4	56.1	60.62	29.061	.072	30.108
	27	Lacaille 3546	8	5	III–VII.	159 14 58.7	65.9	62.9	66.2	58.8	56.8	61.55	25.895	.903	- -
	28	Anon. 8h. 44m. 51s.		1	IX.	169 59 57.8	65.4	63.1	66.4	58.2	57.3	61.37	24.715	.783	- -
	29	Anon. 8h. 50m. 58s.		2	VIII, IX.	158 49 58.2	66.4	62.1	66.1	58.0	55.9	61.12	26.525	.578	- -
	30	O. Arg. S. 9276	7.5	5	III–VII.	159 19 58.5	65.4	62.6	66.8	58.7	57.3	61.55	29.340	.362	30.123
	31	Lacaille 3739	7.3	5	III–VII.	158 39 59.1	67.0	62.8	67.0	58.5	57.5	61.98	30.560	.572	- -
	32	μ Leonis		4	I–IV.	102 14 57.2	66.1	60.8	65.3	57.8	57.0	60.70	30.151	.139	- -
	33	μ Leonis, (Ref.)		4	VI–IX.	257 44 53.1	59.5	57.6	62.5	54.5	55.1	57.05	29.636	.668	- -
	34	α Leonis, (Ref.)		4	I–IV.	243 44 58.1	65.0	61.3	65.1	57.9	57.9	60.88	31.079	.082	- -
	35	α Leonis		4	VI–IX.	116 14 57.3	65.9	59.9	63.8	57.2	57.5	60.27	28.805	.816	30.128
	36	Moon N. L.		4	I–IV.	128 29 58.2	65.0	58.9	64.8	56.1	56.9	59.99	29.482	.281	- -
	37	Moon S. L.		4	VI–IX.	128 59 58.8	65.5	59.0	64.7	57.2	57.2	60.40	28.860	.076	30.115
	38	O. Arg. S. 11353	7	4	VI–IX.	159 49 58.2	65.4	61.6	66.0	57.5	56.1	60.80	30.386	.429	- -
	39	Iris	9.0	5	I–IX.	134 54 57.5	66.3	61.0	64.6	57.6	56.6	60.60	33.209	.230	30.130
	40	Nadir 11h. 40m.		3	- -	269 59 58.1	65.0	60.0	65.8	56.7	56.5	60.35	29.930	.937	- -
23	41	Sun S. L.		4	I–IV.	127 49 59.0	63.4	57.1	60.4	57.9	58.7	59.42	31.603	.610	29.961
	42	Sun N. L.		4	VI–IX.	127 14 60.8	64.7	58.0	61.9	60.0	60.3	60.95	26.085	.096	- -
	43	Nadir 7h. 15m.		3	- -	269 59 60.4	64.8	60.5	62.8	59.8	60.0	61.39	29.964	.975	- -
	44	Lacaille 2762		1	V.	154 39 60.2	65.2	61.4	62.0	59.5	59.9	61.37	35.527	.537	29.931
	45	B. A. C. 3143		5	III–VII.	167 29 59.7	65.0	63.1	65.1	59.5	58.0	61.73	26.416	.437	29.962
	46	Anon. 9h. 15m. 38s.	7.0	1	V.	163 29 60.2	64.9	62.7	63.8	59.9	59.5	61.83	25.099	.113	- -
	47	Anon. 9h. 26m. 12s.	7.7	1	V.	157 19 58.6	64.3	60.6	63.4	58.3	57.2	60.40	32.726	.727	- -
	48	Lacaille 3996	6.7	5	III–VII.	167 44 58.8	63.5	61.9	63.8	58.5	57.2	60.62	27.204	.228	- -
	49	Anon. 9h. 50m. 22s.	7	1	V.	" " "	"	"	"	"	"	"	31.950	.956	29.974
	50	Anon. 9h. 54m. 23s.	7.3	1	V.	163 29 58.4	64.5	61.6	63.2	59.4	58.4	60.92	29.100	.114	- -
	51	Anon. 11h. 15m. 52s.	7.7	1	V.	167 9 58.4	65.1	62.1	66.6	58.9	58.2	61.55	27.733	.734	29.983
	52	Iris	9.2	5	I–IX.	134 39 58.5	65.5	59.6	64.1	57.7	58.3	60.62	30.364	.384	- -
	53	Anon. 11h. 44m. 24s.	7.0	3	IV–VI.	164 59 58.6	65.2	60.6	65.2	58.4	57.5	60.92	28.096	.112	- -
	54	Lacaille 4976	6.5	5	III–VII.	162 9 58.8	64.6	61.2	65.5	57.7	57.1	60.82	33.052	.068	- -
	55	Anon. 11h. 58m. 16s.	7.8	5	III–VII.	" " "	"	"	"	"	"	"	14.907	.916	29.982
	56	Anon. 12h. 9m. 0s.	7.2	3	III–VII.	154 44 58.9	65.8	61.2	64.0	58.4	57.5	60.97	39.105	.124	- -
	57	Anon. 12h. 9m. 52s.	6.3	2	VIII, IX.	" " "	"	"	"	"	"	"	35.220	.279	- -
	58	Anon. 12h. 13m. 51s.	9.3	1	V.	" " "	"	"	"	"	"	"	30.621	.626	- -
	59	Anon. 12h. 22m. 50s.	9.0	3	IV–VI.	166 24 58.7	66.7	62.0	67.2	59.2	57.9	61.95	30.027	.039	- -
	60	Lacaille 5214		1	IV.	167 54 59.1	65.7	62.8	67.5	58.4	57.5	61.83	27.441	.450	- -
	61	Anon. 12h. 36m. 57s.	9.0	5	III–VII.	165 19 58.6	65.9	61.2	65.9	57.8	57.4	61.13	31.014	.029	- -
	62	Moon S. L.		5	I–IX.	137 44 58.0	65.6	59.8	63.6	58.4	56.6	60.33	31.787	.798	29.991
	63	Nadir 12h. 55m.		3	- -	269 59 59.1	65.2	60.8	65.6	58.5	58.4	61.27	29.969	.976	- -

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ″ ′	″		
1	43.5	42.1	29.861	— 1 51.3	+ 1 15.4	143 39 24.7	— 14 45 45.5		N.	
2	47.5	46.3	. .	10 0.8	45.2	130 50 44.2	— 2 13 10.2			
3	. .	. .	. .	2 51.4	+ 46.1	131 22 54.6				
4										
5	48.0	42.2	. .	— 14.4	— 32 37.1	108 22 9.1	+ 20 31 30.1			
6	33.0	31.0	29.870	+ 2.6	+ 1 14.8	142 56 19.8	— 14 2 40.6			
7	. .	. .	29.881	+ 1 5.0	44.7	130 11 49.2	— 1 2 4.8			
8	38.0	39.0	. .	— 1 6.4	+ 43.8	129 39 38.7				Missed wire VII.
9										
10	49.0	34.5	29.894	— 2 26.7	— 5 56.5	113 6 38.4	+ 15 47 0.8		Ha.	At. Ther. perhaps 39. 0.
11										
12	42.2	46.6	29.920	+ 29.8	+ 1 9.9	142 11 40.6	— 13 18 1.4		N.	
13	. .	. .	29.930	+ 16.8	41.4	129 15 59.1	— 0 38 24.1			
14	46.2	51.8	. .	— 2 33.9	+ 42.3	129 48 7.5				Weight 4, Bar. undulating.
15	48.5	51.2	29.941	+ 58.1	— 1 20.1	35 29 38.3	+ 86 35 59.1	+ 7.4		
16										
17	. .	. .	. .	— 26.7	+ 1 22.9	145 25 54.9	— 16 32 15.7	33.5		
18	43.0	41.3	29.877	2 22.2	1 10.0	141 48 49.2	12 55 10.0		Ha.	
19	45.0	44.2	. .	1 15.7	42.7	129 24 28.1	0 14 42.7			
20	. .	. .	. .	3 28.4	41.8	128 52 15.8				Very unsteady.
21										
22									N.	
23	34.0	29.3	29.905	4 7.8	3 21.4	163 24 13.9	34 30 34.7	57.3		Time not observed. A. R. "not far wrong."
24	. .	. .	. .	2 6.2	4 1.5	166 6 55.6	37 13 16.4	63.9		
25	. .	. .	. .	— 5 15.0	3 23.1	163 28 9.3	34 34 30.1	72.2		
26	33.0	27.8	. .	+ 26.1	2 5.5	154 7 32.2	25 13 53.0	71.6		Several other stars in the field.
27	. .	. .	. .	2 5.4	2 40.8	159 19 47.7	30 26 8.5	77.4		Perhaps 24 rev.
28	. .	27.5	. .	2 40.5	5 37.3	170 8 19.1	41 14 39.9	78.9		Faint and uncertain.
29	. .	. .	29.916	1 44.6	2 37.4	158 54 23.1	30 0 43.9	79.1		
30	32.4	27.6	. .	+ 17.4	2 41.3	159 23 0.2	30 29 21.0	80.6		
31	. .	. .	. .	— 20.6	2 36.3	158 42 17.6	— 29 48 38.4	73.4		
32	. .	. .	. .	— 7.0	+ 13.3	102 15 7.0	+ 26 38 32.2	80.2		Unsteady.
33	. .	. .	. .	+ 7.8	— 13.3	257 44 51.5	26 38 30.8	80.2		
34	. .	. .	. .	— 36.5	— 30.4	243 43 53.9	12 37 33.2	86.7		
35	32.0	25.8	. .	+ 34.5	+ 30.4	116 16 5.1	12 37 34.1	86.7		
36	. .	. .	. .	19.9	— 32 56.4	127 57 23.4	+ 0 41 23.0			
37	30.0	25.2	. .	+ 26.3	— 33 17.6	128 27 9.1				
38	. .	. .	. .	— 16.1	+ 1 54.6	151 51 39.3	— 22 58 0.1	98.6		
39	30.0	25.1	. .	1 43.8	1 1.4	134 54 18.2	— 6 0 39.0			
40										
41	39.0	31.7	29.936	— 52.5	41.6	127 49 48.5	+ 1 19 54.0			
42	. .	. .	. .	+ 2 0.3	40.8	127 17 42.0				
43										
44	37.3	35.1	. .	— 2 55.5	2 5.8	154 39 11.6	— 25 45 32.4	49.8		
45	34.7	31.6	. .	+ 1 49.6	4 27.6	167 36 18.9	38 42 39.7	84.1		
46	. .	. .	. .	+ 2 31.1	3 22.0	163 35 54.9	34 42 15.7	85.6		
47	. .	. .	. .	— 1 27.5	2 24.1	157 20 57.0	28 27 17.8	96.9		
48	. .	. .	. .	+ 1 24.9	4 33.9	167 50 59.4	38 57 20.2	90.4		
49	34.0	29.1	. .	— 1 3.3	4 33.4	167 48 30.7	38 54 51.5	92.2		
50	. .	. .	. .	+ 25.8	3 22.9	163 33 49.6	34 40 10.4	92.5		
51	32.3	26.0	. .	+ 1 9.0	4 23.7	167 15 34.2	38 21 55.0	99.9		
52	. .	. .	. .	— 14.0	1 0.5	134 40 47.1	5 47 7.9			
53	. .	. .	. .	+ 57.2	3 45.5	165 4 43.6	36 11 4.4	98.4		
54	. .	. .	. .	— 1 38.1	3 8.0	162 11 30.7	33 17 51.5	98.0		
55	31.2	25.5	. .	+ 7 50.6	3 10.0	162 21 1.4	33 27 22.2	97.8		
56	. .	. .	. .	— 4 47.9	2 8.8	154 42 21.8	25 48 42.6	97.5		
57	. .	. .	. .	2 47.4	2 9.1	154 44 22.6	25 50 43.4	97.4		
58	. .	. .	. .	21.6	2 9.3	154 46 48.6	25 53 9.4	97.0		
59	. .	. .	. .	— 3.2	4 9.1	166 29 7.8	37 35 28.6	95.3		
60	. .	. .	. .	+ 1 17.9	4 40.4	168 1 0.1	39 7 20.9	94.5		Cloudy.
61	. .	. .	. .	— 34.2	+ 3 50.5	165 23 17.4	36 29 38.2	+ 93.7		
62	30.3	25.3	. .	— 58.3	— 54 41.0	136 49 21.0	— 7 55 41.8			
63										

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Mar. 23	1	Saturn S. L.		3	I–IX.	132 29 58.7	67.0	60.9	65.6	57.8	57.9	61.32	31.764	.767	
	2	Saturn N. L.		2	III, VII.	" " "	"	"	"	"	"	"	32.275	.295	
	3	Venus, centre		5	III–VII.	139 49 58.0	66.4	58.3	63.0	59.1	57.0	60.30	33.464	.478	30.150
	4	Mercury, centre		5	III–VII.	132 54 58.2	67.1	58.5	62.8	60.5	60.0	61.18	29.269	.288	30.154
24	5	Sun N. L.		4	VI–IX.	126 54 57.5	65.1	56.0	59.9	60.0	57.9	59.40	32.894	.895	30.150
	6	Polaris		5	1–5.	40 19 57.3	63.6	58.1	60.2	59.9	59.9	59.83	30.824	.821	30.144
	7	Iris		1	V.	134 34 57.9	64.0	56.0	59.0	57.4	58.5	58.80	33.761	.762	30.070
	8	β Leonis, (Ref.)		4	I–IV.	246 24 58.0	63.7	59.6	62.5	59.8	61.9	60.92	27.210	.218	
	9	β Leonis		4	VI–IX.	113 34 58.7	65.3	59.2	61.2	58.8	59.9	60.52	32.726	.737	
	10	Nadir 11h. 59m.		5		269 59 58.9	64.0	58.0	60.4	58.4	60.4	60.02*d*	29.936	.942	
	11	Anon. 12h. 11m. 45s.	6	5	III–VII.	128 54 58.0	64.0	56.5	58.9	58.0	58.3	58.95	29.946	.952	
	12	η Virginis		2	VIII, IX.	" " "	"	"	"	"	"	"	43.751	.773	30.072
	13	β Corvi		5	III–VII.	151 29 59.1	64.3	60.0	61.3	59.0	57.9	60.27	28.545	.557	
	14	Saturn S. L.		3	III–VII.	132 29 58.8	66.9	58.8	62.0	58.0	59.1	60.60	35.180	.198	
	15	Saturn N. L.		2	IV, VI.	" " "	"	"	"	"	"	"	35.691	.693	
	16	Polaris, S. P.		5		37 29 57.4	63.9	58.5	62.4	58.7	58.1	59.83	29.443	.505	30.054
	17	Moon S. L.		5	III–VII.	141 44 57.8	63.1	58.4	59.9	56.1	57.2	58.75	30.254	.273	30.056
28	18	Sun N. L.		4	VI–IX.	125 19 59.6	55.1	59.5	60.4	59.6	60.8	59.17	30.637	.637	30.200
	19	Nadir 9h.		2		269 59 66.5	68.3	63.5	65.3	64.9	68.0	66.08	30.096	.105	
April 6	20	λ Ursæ Minoris, S. P.		3	V.	37 49 59.0	60.0	57.9	58.5	58.0	62.4	59.30	32.144	.160	30.096
	21	κ Cephei, S. P.	4	5	VII–III.	26 14 59.6	62.2	59.0	58.8	58.1	61.2	59.82	32.834	.869	
	22	B. A. C. 2843	7	5	III–VII.	160 4 59.0	59.3	56.5	56.3	54.9	59.5	57.58	29.890	.898	
	23	B. A. C. 7124, S. P.		5	VII–III.	20 59 59.9	61.0	58.5	60.2	59.2	61.9	60.12	29.401	.440	30.105
	24	Lacaille 3552	7.7	5	III–VII.	158 44 59.9	61.3	57.3	58.6	56.2	60.4	58.95	27.420	.439	
	25	B. A. C. 7299, S. P.		5	VI–IV.	28 59 59.5	60.5	59.2	60.8	58.5	62.4	60.15	34.314	.345	
	26	Nadir 9h. 5m.		3		269 59 60.1	60.3	56.0	56.6	58.0	61.8	58.80	29.875	.886	
	27	Lacaille 3796	7.5	1	V.	159 4 61.2	62.2	58.9	59.6	57.6	61.0	60.08	29.292	.311	
	28	1 (Hev.) Draconis		3	IV–VI.	46 59 58.9	59.3	57.4	57.0	58.0	61.6	58.70	31.544	.533	30.127
	29	Anon. 9h. 39m. 59s.	8.3	1	V.	165 59 60.0	61.1		59.5		61.2	58.97	27.145	.161	
	30	Lacaille 4030	7.2	3	IV–VI.	165 49 59.5	62.0	56.9	59.2	57.4	60.4	59.23	28.757	.760	
	31	Weisse IX, 1259	7.0	1	V.	115 24 60.3	62.5	56.6	57.1	58.0	63.3	59.63	26.348	.366	
	32	Anon. 10h. 8m. 34s.	7.5	1	V.	158 59 60.4	62.4	58.6	59.9	57.4	61.0	59.95	29.678	.681	30.131
	33	δ Leonis		5	I–IX.	107 34 59.8	62.1	58.1	56.8	57.7	61.6	59.35	25.156	.162	
	34	Iris		3	III–VII.	133 4 60.1	63.7	57.6	58.8	58.3	62.3	60.13	27.194	.213	30.129
	35	B. A. C. 8213, S. P.	5.3	3	near 1.	35 29 60.2	61.4	59.3	61.2	57.7	62.4	60.37	32.857	.860	
	36	τ Cassiopeæ, S. P.		5	VII–III.	6 54 60.0	61.6	60.0	60.6	56.6	59.5	59.72	30.178	.208	
	37	Lacaille 4948	6.5	5	III–VII.	155 9 55.7	62.1	58.1	58.3	57.5	60.0	58.62	30.496	.511	
	38	Anon. 12h. 3m. 46s.	9	1	V.	168 39 59.3	60.1	58.9	60.2	55.6	59.3	58.90	33.895	.899	
	39	Nadir 12h. 50m.		3		269 59 60.3	60.9	57.1	58.6	56.9	61.5	59.22	29.888	.900	
	40	Saturn		3	III–VII.	132 4 60.2	62.6	57.4	59.0	56.8	60.1	59.35	32.341	.359	30.115
7	41	Sun S. L.		4	I–IV.	121 29 59.2	62.5	56.0	57.6	55.9	58.0	58.20	29.579	.584	30.182
	42	Sun N. L.		4	VI–IX.	121 59 59.3	62.6	55.9	58.1	56.1	59.0	58.50	25.974	.977	
	43	Nadir 8h. 35m.		3		269 59 59.5	59.2	55.4	56.0	56.2	61.2	57.92*d*	29.915	.920	
	44	ε Hydræ		4	VI–IX.	121 59 59.1	61.7	55.3	57.0	57.0	60.6	58.45	33.034	.057	30.128
	45	ι Ursæ Majoris, (Ref.)		4	I–IV.	279 39 59.2	60.2	56.0	55.0	56.8	59.9	57.85	28.905	.920	
	46	ι Ursæ Majoris		4	VI–IX.	80 19 59.2	63.6	58.9	59.3	60.5	65.2	61.12	31.013	.011	
	47	α Hydræ, (Ref.)		4	I–IV.	222 59 60.0	59.2	58.1	59.3	55.4	63.1	59.18	24.640	.625	
	48	α Hydræ		4	VI–IX.	136 59 60.4	63.0	56.8	57.2	58.1	60.3	59.30	35.283	.321	30.128
	49	ε Leonis, (Ref.)		4	I–IV.	255 29 58.9	60.7	57.6	60.0	57.5	63.5	59.70	29.323	.337	
	50	ε Leonis		4	VI–IX.	104 29 60.0	63.8	58.4	59.9	59.2	63.0	60.72	30.654	.663	
	51	11 Cephei, S. P.		3	III–I.	19 34 60.5	61.9	59.0	60.9	58.2	61.1	60.27	25.304	.391	
	52	79 Draconis, S. P.		2	II, I.	22 4 59.4	62.0	59.3	61.6	58.8	62.6	60.62	40.390	.511	
	53	α Leonis		3	VII–IX.	116 14 60.2	62.7	56.5	56.8	56.5	61.2	58.98	28.853	.880	30.122
	54	ι Cephei, S. P.		5	VII–III.	14 24 58.9	62.9	58.1	59.8	56.7	59.2	59.27	27.117	.149	30.092
	55	α Ursæ Majoris, (Ref.)		4	I–IV.	293 34 59.1	60.3	57.9	55.1	57.0	58.9	58.05	30.042	.083	
	56	α Ursæ Majoris		4	VI–IX.	66 24 59.1	63.0	60.1	61.5	59.8	64.9	61.40	29.886	.859	
	57	Iris		1	V.	132 59 58.9	62.2	55.1	59.0	56.1	61.4	58.78	29.690	.692	
	58	γ Ursæ Majoris, (Ref.)		4	I–IV.	285 29 59.6	59.7	57.0	57.0	56.3	60.9	58.42	24.172	.207	
	59	γ Ursæ Majoris		4	VI–IX.	74 29 61.5	65.9	62.7	64.2	61.8	66.1	63.70	35.853	.837	30.084
	60	Nadir 11h. 58m.		3		269 59 59.8	62.1	57.0	59.2	57.0	61.8	59.48*d*	29.960	.967	
	61	Venus, centre		5	III–VII.	133 9 60.6	64.5	59.7	60.9	58.1	63.1	61.15	29.938	.945	30.091
8	62	Sun N. L.		4	I–IV.	121 9 61.1	64.8	59.3	59.8	58.6	61.7	60.88	34.226	.242	30.078
	63	Sun S. L.		4	VI–IX.	121 39 61.0	64.2	58.6	59.5	58.9	60.7	60.48	30.573	.544	
11	64	B. A. C. 3627	6.2	5	III–VII.	151 19 58.9	60.9	58.2	59.5	55.1	59.0	58.60	28.344	.365	29.990
	65	O. Arg. S. 10840	6.7	5	III–VII.	158 59 59.6	62.1	59.5	61.0	55.5	59.2	59.48	28.332	.355	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	″ ′	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.936	— 57.4	+ 55.5	132 29 59.4	— 3 36 11.9		N.	
2	. .	. .	. .	1 13.9	55.5	132 29 42.9				
3	37.0	39.0	. .	— 1 51.0	1 6.2	139 49 15.5	10 55 36.3		Ha.	
4	41.0	41.7	. .	+ 20.3	51.0	132 56 12.4	— 4 2 33.2			
5	42.5	43.1	. .	— 1 32.7	+ 16 43.5	127 10 10.2	+ 1 43 29.0			
6	44.0	44.9	. .	27.7	— 1 9.5	40 18 22.6	+ 88 35 16.6	— 88.5		
7	40.5	33.7	. .	— 1 59.9	+ 59.4	134 33 58.3	— 5 40 19.1			
8	. .	. .	. .	+ 1 25.2	— 26.3	246 25 59.8	+ 15 19 39.1	+ 97.3		
9	. .	. .	. .	— 1 27.8	+ 26.3	113 33 59.0	+ 15 19 40.2	97.3		
10										
11	. .	. .	. .	0.5	48.8	128 55 47.2	— 0 2 8.0	97.9		
12	40.0	33.0	. .	— 7 13.6	48.6	128 48 33.9	+ 0 5 5.3	97.8		
13	. .	. .	. .	+ 43.2	1 51.1	151 32 34.5	— 22 38 55.3	+ 95.5		
14	. .	. .	. .	— 2 44.9	54.6	132 28 10.3	— 3 34 23.3			[13h. 15m. 8s.
15	. .	. .	. .	— 3 0.4	+ 54.6	132 27 54.8				At intervals of 30s. from 13h. 13m. 8s. till
16	39.0	32.9	. .	+ 13.5	— 1 18.7	37 28 54.6	+ 88 35 15.4	— 88.3		Through clouds.
17	39.0	32.5	. .	— 10.6	— 57 30.9	140 47 17.2	— 11 53 38.0			
18	70.0	53.5	29.911	22.7	+ 16 39.2	125 36 15.6	+ 3 17 23.6		N.	Barometer and thermometer from Meteorological Journal.
19										
20	54.5	52.3	29.925	1 10.0	— 1 14.9	37 47 34.4	88 53 55.2	31.8		Near wire V.
21	. .	. .	. .	— 1 32.2	— 1 57.7	26 11 29.9	+ 77 17 50.7	— 34.7		
22	. .	. .	. .	+ 0.8	+ 2 39.5	160 7 37.8	— 31 13 58.6	+ 73.0		
23	53.7	51.1	. .	15.2	— 2 30.8	20 57 44.5	+ 72 4 5.2	— 40.3		
24	. .	. .	. .	+ 1 17.9	+ 2 29.2	158 48 46.0	— 29 55 6.8	+ 79.1		
25	. .	. .	. .	— 2 18.5	— 1 45.1	28 55 56.5	+ 80 2 17.3	— 47.9		
26										
27	. .	. .	. .	+ 19.2	+ 2 31.9	159 7 51.1	— 30 14 11.9	+ 86.8		
28	52.2	50.2	. .	— 50.4	— 54.5	46 58 13.8	+ 81 55 25.4	57.1		
29	. .	. .	. .	+ 1 26.6	+ 3 51.1	166 5 16.6	— 37 11 37.4	92.8		— 1″.58 applied to mean of A and B for mean of all.
30	. .	. .	. .	36.5	3 48.1	165 54 23.8	— 37 0 44.6	93.2		
31	. .	. .	. .	1 51.5	27.9	115 27 19.0	+ 13 26 20.2	85.3		Perhaps 25 rev.
32	51.2	49.1	. .	7.6	2 31.6	159 2 39.1	— 30 8 59.9	96.3		
33	. .	. .	. .	2 29.2	18.7	107 37 47.2	+ 21 15 52.0	+ 93.0		
34	50.0	48.1	. .	+ 1 25.0	+ 54.9	133 7 20.0	— 4 13 40.8			
35	. .	. .	. .	— 1 32.0	— 1 22.3	35 27 6.0	+ 86 33 26.8	— 81.6		
36	. .	48.0	. .	8.9	— 7 32.6	6 47 18.2	+ 57 53 39.0	— 80.1		
37	. .	. .	. .	18.4	+ 2 6.4	155 11 46.6	— 26 18 7.4	+ 100.8		
38	. .	. .	. .	2 4.5	4 45.1	168 42 39.5	39 49 0.3	100.2		
39										
40	48.7	46.4	. .	— 1 16.3	52.5	132 4 35.5	— 3 10 56.3			
41	54.0	57.3	29.985	+ 12.5	31.0	121 30 41.7	+ 7 7 0.5		Ha.	
42	. .	. .	. .	+ 2 5.6	31.6	122 2 35.7				
43										
44	54.5	51.0	. .	— 1 36.3	36.4	121 58 58.5	6 54 40.7	67.8		
45	. .	. .	. .	+ 33.4	+ 10.0	279 40 41.2	48 34 20.5	57.1		
46	. .	. .	. .	— 32.1	— 10.0	80 19 19.0	+ 48 34 20.3			
47	. .	. .	. .	+ 2 48.0	— 1 2.7	223 1 44.4	— 8 4 36.3	83.1		
48	54.0	48.9	. .	— 2 47.2	+ 1 2.7	136 58 14.8	— 8 4 35.6			
49	. .	. .	. .	+ 20.3	— 15.2	255 30 4.8	+ 24 23 44.1	77.6		
50	. .	. .	. .	— 21.2	+ 15.2	104 29 54.7	24 23 44.5	+ 77.6		
51	. .	. .	. .	+ 2 23.9	— 2 43.3	19 34 40.8	70 41 1.6	— 60.2		
52	. .	. .	. .	— 5 29.8	— 2 24.6	21 57 6.2	73 3 27.0	— 63.0		
53	53.5	47.2	. .	+ 34.6	+ 29.0	116 16 2.5	12 37 36.7	+ 85.8		
54	52.0	45.9	. .	+ 1 28.9	— 3 45.0	14 22 43.1	65 29 3.9	— 73.6		
55	. .	. .	. .	— 3.1	+ 25.7	293 35 20.7	62 28 59.9	+ 82.2		
56	. .	. .	. .	+ 3.9	— 25.7	66 24 39.6	+ 62 28 59.6			
57	. .	. .	. .	9.2	+ 55.1	133 1 3.0	— 4 7 23.8			
58	. .	. .	. .	+ 3 1.1	+ 16.5	285 33 16.0	+ 54 26 55.2	+ 89.2		
59	50.0	41.9	. .	— 3 3.4	— 16.5	74 26 43.8	+ 54 26 55.5			
60										
61	51.3	58.1	29.980	+ 1.1	+ 50.0	133 10 52.2	— 4 17 13.0		N.	
62	55.0	63.3	. .	— 2 13.5	30.0	121 8 17.3	+ 7 29 23.9		Ha.	
63	. .	. .	. .	— 17.7	30.6	121 40 13.3				
64	53.6	49.8	29.962	+ 50.0	1 46.2	151 22 34.8	— 22 28 55.6	98.2	N.	
65	. .	. .	. .	+ 50.4	+ 2 30.8	159 3 20.6	— 30 9 41.4	+ 100.3		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
April 11	1	O. Arg. S. 10912	7.7	5	III–VII.	158 39 59.8	61.8	59.6	60.2	54.6	58.1	59.02	26.897	.905	
	2	O. Arg. S. 10974	7.3	5	III–VII.	158 29 60.5	62.4	60.2	61.8	55.3	59.5	59.95	33.079	.096	
	3	Anon. 10h. 55m. 21s.	7.8	3	III–VII.	161 59 60.2	61.8	60.4	61.7	55.0	60.8	60.12	26.409	.431	29.996
	4	Nadir 11h. 10m.		3		269 59 61.0	62.2	58.6	61.0	57.8	62.3	60.48	29.966	.977	
	5	Iris	9.2	5	I–IX.	132 34 60.4	62.6	58.8	60.5	55.9	61.5	59.95	28.334	.355	
	6	Venus, centre		5	III–VII.	131 19 60.9	64.2	57.0	61.1	56.7	59.3	59.87	35.134	.149	29.990
	7	Polaris		2	1,5.	40 19 61.0	66.0	61.1	65.3	59.1	65.1	62.93	30.839	.834	29.956
12	8	Sun S. L.		4	I–IV.	120 9 58.0	61.2	53.4	57.0	53.8	58.7	57.02	27.058	.066	29.956
	9	Sun N. L.		4	VI–IX.	119 39 59.1	61.0	53.7	58.0	55.0	58.2	57.50	30.749	.745	
	10	Nadir 1h. 40m.		3		269 59 59.6	60.9	55.2	58.6	55.5	60.6	58.40	29.926	.937	
	11	Mercury, centre		1	V.	115 49 60.0	63.5	56.0	58.9	57.0	61.2	59.43	30.748	.749	29.946
13	12	*d* Ursæ Majoris		5	III–VII.	58 29 59.8	65.1	61.2	64.1	60.1	67.0	62.85	32.524	.513	29.935
	13	O. Arg. S. 9931	7.5	4	VI–IX.	159 14 58.4	61.3	58.9	60.9	54.2	58.9	58.77	33.368	.415	
	14	11 Cephei, S. P.		3	VI–IV.	19 39 59.9	62.8	61.2	63.2	56.5	60.1	60.62	34.946	.960	
	15	Weisse 1279	8.7	5	III–VII.	115 9 59.5	64.2	59.2	61.2	56.5	62.2	60.47	25.652	.654	29.950
	16	Nadir 11h. 30m.		3		269 59 59.5	62.1	58.1	61.3	55.6	61.3	59.65	29.940	.951	
17	17	*α* Piscis Australis		5	III–VII.	159 14 56.0	60.8	59.4	60.0	53.5	53.0	57.12	36.722	.728	29.993
	18	*α* Pegasi		5	I–IX.	114 24 58.6	64.5	61.1	61.4	56.8	57.2	59.93	30.469	.476	
18	19	Sun N. L.		4	I–IV.	117 29 59.5	62.6		57.9	56.4	57.2	58.08	26.372	.384	
	20	Sun S. L.		4	VI–IX.	118 4 61.6	65.2	57.1	59.6	58.6	59.6	60.28	32.338	.351	29.974
	21	Nadir 2h. 0m.		5		269 59 60.1	62.5	59.3	59.6	58.4	60.8	60.12	29.980	.990	
	22	76 Draconis, S. P.		3	VI–V.	30 54 60.4	62.7	61.2	61.0	59.9	62.0	61.20	26.921	.944	
	23	B. A. C. 7299, S. P.	5.5:	3	5–1.	28 59 60.6	63.4	63.9	63.2	61.8	62.1	62.50	34.520	.531	29.926
	24	Lacaille 3802	7.8	3	III–VII.	158 49 61.3	63.2	61.9	60.8	57.9	59.6	60.78	33.231	.256	
	25	1 (Hev.) Draconis		4	VI½–VII½.	46 59 59.4	61.2	60.4	58.9	59.8	61.1	60.13	31.781	.688	
	26	O. Arg. S. 9789	8.5	2	VIII, IX.	158 24 60.2	62.9	60.9	59.1	57.5	58.9	59.92	30.623	.672	29.931
	27	Anon. 9h. 50m. 22s.		2	III, V.	167 44 60.3	61.3	61.5	60.2	58.8	59.1	60.20	31.504	.510	
	28	Weisse X, 115	9.2	5	I–IX.	116 19 59.5	62.1	58.1	57.0	57.4	60.2	59.05	29.742	.737	29.934
	29	B. A. C. 3593		5	III–VII.	52 29 60.1	61.8	62.0	60.6	59.5	63.1	61.18	30.674	.646	
	30	Nadir		4		269 59 60.6	61.9	59.5	58.9	58.4	61.3	60.10*d*	29.966	.975	
	31	Anon. 10h. 43m. 15s.	7.8	5	III–VII.	158 9 60.9	63.2	61.9	59.4	57.8	58.9	60.35	33.432	.451	
	32	Anon. 10h. 52m. 32s.	7.2	5	III–VII.	151 24 59.6	62.1	61.0	59.2	58.2	57.9	59.67	32.232	.254	29.935
	33	Iris	9.5	3	III–VII.	131 54 60.1	62.1	58.8	58.2	56.9	58.8	59.15	25.199	.217	
	34	B. A. C. 8213, S. P.	5.0	5	5–1.	35 29 59.3	62.1	61.4	61.5	58.8	60.6	60.62	32.994	.005	29.937
	35	Moon N. L.		5	I–IX.	131 14 61.0	63.4	59.3	58.4	57.7	59.9	59.95	26.182	.194	
	36	B. A. C. 8314, S. P.	6.0	5	VII–III.	22 34 60.5	64.0	62.6	62.0	59.4	61.1	61.60	29.654	.682	29.936
19	37	Sun N. L.		5	III–VII.	117 9 59.0	64.0	53.0	59.0	56.9	58.0	58.32	27.679	.681	29.922
	38	76 Draconis, S. P.		5	5–1.	30 54 59.0	64.0	60.9	62.0	59.1	61.0	61.00	26.910	.915	
	39	B. A. C. 7299, S. P.		3		28 59 59.0	64.9	61.9	64.0	60.6	61.7	62.02	34.384	.485	29.896
	40	1 (Hev.) Draconis		4	III–VII.	46 59 58.3	63.1	60.2	60.4	59.5	61.0	60.42	31.764	.714	
	41	*β* Cephei, S. P.		5	VII–III.	18 54 59.8	64.2	62.1	62.2	59.0	58.6	60.98	31.551	.581	29.908
	42	Nadir 9h. 45m.		3		269 59 59.4	63.0	58.2	60.1	58.1	60.5	59.88*d*	29.961	.968	
	43	O. Arg. S. 10936	9.0	1	V.	158 19 59.1	64.6	60.2	60.8	57.6	58.1	60.07	43.178	.195	
	44	O. Arg. S. 10941	8.0	1	VI.	" " "	"	"	"	"	"	"	31.372	.389	
	45	O. Arg. S. 10952	8.0	1	VI.	" " "	"	"	"	"	"	"	41.432	.447	29.922
	46	*α* Ursæ Majoris		5	III–VII.	66 24 59.7	63.2	61.1	61.3	60.0	63.0	61.38	29.949	.941	
	47	*δ* Leonis		5	III–VII.	107 39 59.6	64.8	60.2	60.0	58.4	59.5	60.42	34.880	.880	
	48	Lacaille 4672		5	III–VII.	167 24 59.0	64.5	61.2	62.1	58.0	57.0	60.30	29.698	.706	
	49	Lacaille 4766	7.0	5	III–VII.	167 19 58.3	63.8	61.1	61.5	58.0	57.0	59.95	31.970	.983	21.918
	50	Lacaille 4837	7.0	5	III–VII.	166 9 59.1	64.2	60.6	62.4	57.7	58.3	60.38	27.309	.334	
	51	Lacaille 5016	7.0	5	III–VII.	166 44 58.9	64.1	61.0	63.0	57.8	58.2	60.50	29.949	.961	
	52	Anon. 12h. 6m. 14s.	6.0	5	III–VII.	162 14 59.1	62.5	61.5	60.3	56.0	58.0	59.57	33.583	.595	
	53	Anon. 12h. 14m. 17s.	7.5	1	V.	157 49 59.5	64.5	61.2	61.1	57.1	58.1	60.25	30.550	.559	
	54	Lacaille 5131	7.0	1	V.	158 24 60.0	64.8	62.6	61.5	57.2	58.0	60.68	27.376	.393	
	55	Moon N. L.		5	III–VII.	135 39 59.8	64.9	61.1	59.4	58.0	59.5	60.45	32.758	.760	
	56	Anon. 12h. 28m. 58s.	7.5	1	V.	161 49 60.3	64.9	63.7	63.1	56.9	59.8	61.45	28.502	.518	29.924
21	57	Mercury, centre		1	V.	109 9 60.2	65.6	61.2	60.6	59.4	61.1	61.35	25.598	.604	30.090
	58	Anon. 11h. 0m. 43s.	8.0	1	V.	157 49 60.0	66.3	62.9	62.2	58.5	59.1	61.50	32.100	.114	30.166
	59	Lacaille 4614	7.0	1	V.	" " "	"	"	"	"	"	"	25.561	.569	
	60	B. A. C. 3823	7.0	1	V.	" " "	"	"	"	"	"	"	20.265	.284	
	61	Lacaille 4624	8.0	1	IX.	" " "	"	"	"	"	"	"	42.458	.522	
	62	Lacaille 4687	7.0	1	V.	161 39 59.7	64.0	61.9	61.0	57.5	59.0	60.52	32.483	.495	
	63	B. A. C. 8213, S. P.		5	5–1.	35 29 60.2	65.7	63.0	64.5	59.6	61.8	62.47	33.018	.029	
	64	*τ* Cassiopeæ, S. P.		5	VII–III.	6 54 60.6	65.2	63.4	64.2	58.0	58.6	61.67	30.310	.367	30.174
	65	B. A. C. 8314, S. P.		3	5–1.	22 34 59.0	65.1	62.3	62.3	58.3	59.2	61.03	29.618	.623	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.962	+ 1 35.8	+ 2 28.5	158 44 3.3	— 29 50 24.1	+ 101.0	N.	
2	. .	. .	. .	— 1 38.2	2 26.9	158 30 48.6	29 37 9.4	101.7		
3	53.3	48.9	. .	+ 1 50.6	2 58.0	162 4 48.7	33 11 9.5	+ 103.1		
4										
5	. .	. .	. .	+ 50.4	53.7	132 36 44.0	3 43 4.8			
6	53.0	57.1	29.988	— 2 41.7	+ 46.6	131 18 4.7	— 2 24 25.5		Ha.	
7	55.5	60.7	. .	— 26.5	— 1 7.0	40 18 29.4	+ 88 35 9.8	— 82.5		Clouds at wires 2–4.
8	56.5	62.7	. .	+ 1 31.6	+ 28.7	120 11 57.2	7 57 39.7			
9	. .	. .	. .	— 23.7	28.1	119 40 1.8				An unusually good observation.
10										
11	57.5	63.9	. .	23.9	+ 24.4	115 49 59.9	13 3 39.3			
12	52.7	47.8	29.962	1 19.9	— 35.8	58 28 7.1	+ 70 25 32.1	+ 60.0	N.	
13	. .	. .	. .	1 48.2	+ 2 32.8	159 15 43.3	— 30 22 4.1	+ 90.9		
14	. .	. .	. .	— 2 36.6	— 2 42.6	19 34 41.4	+ 70 41 2.2	— 59.5		
15	52.5	46.5	. .	+ 2 15.0	+ 27.6	115 12 43.0	+ 13 40 56.2	+ 74.0		
16										
17	49.0	51.6	29.977	— 3 31.5	2 31.7	159 13 57.3	— 30 20 18.1	— 89.6		
18	. .	. .	. .	— 15.7	26.4	114 25 10.6	+ 14 28 28.6	79.0		
19	. .	. .	. .	+ 1 52.6	26.1	117 32 16.7	11 5 24.6			Mean of microscopes obtained by differences between these five and the corresponding five in the next line.
20	54.0	56.1	. .	— 1 14.4	+ 26.7	118 4 12.5				
21										
22	. .	. .	. .	+ 1 35.0	— 1 36.4	30 54 59.8	82 1 20.6	46.7		
23	55.4	51.2	. .	— 2 22.7	— 1 44.4	28 55 55.4	+ 80 2 16.2	— 47.0		
24	. .	. .	. .	1 42.7	+ 2 28.8	158 50 46.8	— 29 57 7.6	+ 87.9		
25	. .	49.6	. .	53.6	— 54.2	46 58 12.3	+ 81 55 26.9	55.8		Very steady.
26	54.8	49.4	. .	21.8	+ 2 26.0	158 27 4.1	— 29 33 24.9	89.4		
27	. .	. .	. .	— 48.0	4 21.6	167 48 33.8	— 38 54 54.6	96.2		Very faint; cloudy.
28	54.2	49.0	. .	+ 7.5	+ 28.8	116 20 35.3	+ 12 33 3.9	86.5		
29	. .	. .	. .	— 21.0	— 44.8	52 28 55.3	+ 76 24 43.9	72.1		
30										
31	. .	. .	. .	1 48.8	+ 2 24.8	158 10 36.3	— 29 16 57.1	101.6		
32	53.0	46.7	. .	— 1 11.3	1 46.9	151 25 35.2	22 31 56.0	+ 100.8		
33	. .	. .	. .	+ 2 29.2	+ 52.6	131 58 20.9	— 3 4 41.7			
34	52.0	46.0	. .	— 1 34.9	— 1 22.1	35 27 3.6	+ 86 33 24.4	— 78.5		
35	. .	. .	. .	+ 1 58.5	20 9.9	130 56 48.5	— 2 3 9.3			
36	51.7	45.5	. .	9.3	— 2 20.1	22 32 50.8	+ 73 39 11.6	78.8		
37	54.5	55.1	. .	1 11.9	+ 16 22.6	117 27 32.8	11 26 6.4		Ha.	
38	. .	. .	. .	+ 1 35.9	— 1 36.8	30 55 0.1	82 1 20.9	46.7		
39	53.0	48.9	. .	— 2 21.3	1 44.8	28 55 55.9	80 2 16.7	— 47.0		At 8h. 56m. 7s., 56m. 37s., and 57m. 7s.
40	. .	.	. .	54.4	54.3	47 58 11.7	80 55 27.5	+ 55.6		
41	52.0	48.2	. .	50.3	— 2 48.6	18 51 22.0	+ 69 57 42.8	— 55.6		
42										
43	. .	. .	. .	6 54.2	+ 2 25.7	158 15 31.5	— 29 21 52.3	+ 101.7		
44	. .	. .	. .	44.3	2 26.6	158 21 42.3	29 28 3.1	101.7		
45	51.0	45.1	. .	— 5 59.4	+ 2 25.9	158 16 26.5	— 29 22 47.3	101.7		
46	. .	. .	. .	+ 1.1	— 25.6	66 24 36.8	+ 62 29 2.4	79.6		
47	. .	. .	. .	— 2 33.6	+ 18.7	107 37 45.5	+ 21 15 53.7	91.6		
48	. .	. .	. .	+ 8.5	4 17.4	167 29 26.2	— 38 35 47.0	104.2		
49	50.0	44.4	. .	— 1 2.8	4 15.5	167 23 12.6	38 29 43.4	104.4		
50	. .	. .	. .	+ 1 22.8	3 54.8	166 15 17.9	37 21 38.7	104.1		
51	. .	. .	. .	+ 0.5	4 5.1	166 49 6.1	37 55 26.9	103.1		
52	. .	. .	. .	— 1 53.3	3 1.8	162 16 8.0	33 22 28.8	102.3		
53	. .	. .	. .	— 18.2	2 23.6	157 52 5.6	28 58 26.4	101.3		
54	. .	. .	. .	+ 1 21.0	+ 2 28.1	158 28 49.7	29 35 10.5	101.1		
55	. .	. .	. .	— 1 27.2	— 23 15.3	135 15 17.9	6 21 38.7			
56	49.5	42.8	. .	+ 45.7	+ 2 58.0	161 53 45.1	— 33 0 5.9	100.1		
57	50.8	51.5	29.954	+ 2 16.3	17.7	109 12 35.3	+ 19 41 3.9		N.	
58	51.0	46.0	. .	— 1 7.7	2 23.8	157 51 17.6	— 28 57 38.4	102.7	Ha.	
59	. .	. .	. .	+ 2 17.4	2 24.3	157 54 43.2	29 1 4.0	102.8		
60	. .	. .	. .	+ 5 3.0	2 24.6	157 57 29.1	29 3 49.9	102.9		
61	. .	. .	. .	— 6 33.8	2 23.2	157 45 50.9	28 52 11.7	102.8		
62	. .	. .	. .	1 19.6	+ 2 56.3	161 41 37.2	— 32 47 58.0	+ 103.7		
63	.	. .	. .	1 36.3	— 1 22.9	35 27 3.2	+ 86 33 24.0	— 77.7		
64	51.0	44.5	. .	— 12.9	7 36.6	6 47 12.1	57 53 32.9	77.3		
65	. .	. .	. .	+ 10.4	— 2 21.6	22 32 49.8	+ 73 39 10.6	— 78.2		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
April 21	1	4 Draconis		3	IV–VI.	50 29 59.2	64.8	63.0	61.8	59.1	62.0	61.65	25.880	.869	
	2	Lacaille 5126	7.5	1	V.	165 34 59.7	65.6	61.6	62.5	58.1	59.0	61.08	31.168	.185	
	3	Lacaille 5198	7.0	1	V.	158 9 60.0	64.2	61.8	61.0	57.1	57.4	60.25	31.575	.582	
	4	*α* Canum Venat., (1st *)		5	I–IX.	89 49 59.6	66.0	62.5	62.0	59.4	61.8	61.88	28.414	.409	
	5	*α* Canum Venat., (2d *)		4	II–VIII.	" " "	"	"	"	"	"	"	28.864	.852	30.184
	6	Saturn		5	III–VII.	131 39 59.5	63.4	59.9	60.0	56.0	57.8	59.43	33.083	.096	
	7	Polaris, S P.		5	5–1.	37 29 59.8	65.8	64.2	64.6	60.1	60.3	62.47	29.917	.926	
	8	Nadir		4		269 59 59.9	64.7	61.0	61.6	58.8	59.8	60.96*d*	29.981	.989	
	9	*η* Ursæ Majoris, (Ref.)		4	I–IV.	281 4 60.0	66.1	62.8	60.9	59.1	59.8	61.45	28.876	.892	
	10	*η* Ursæ Majoris		4	VI–IX.	78 54 60.3	67.0	65.2	65.1	61.8	64.1	63.92	31.200	.205	
	11	Moon, S. L.		5	III–VII.	144 4 59.2	64.0	60.7	60.0	57.4	57.4	59.78	34.476	.490	30.190
	12	Venus		5	III–VII.	126 29 60.5	66.0	60.6	60.6	59.8	59.6	61.18	27.933	.938	30.290
22	13	Sun S. L.		4	I–IV.	116 39 59.8	63.7	59.6	57.9	58.5	58.9	59.73	25.890	.888	
	14	Sun N. L.		4	VI–IX.	116 9 57.6	62.5	56.7	56.4	56.5	58.3	58.00	29.297	.311	30.266
	15	Polaris, S. P.		4	4½–V.	37 29 59.4	60.9	61.5	59.1	58.6	61.1	60.10	29.925	.934	
	16	Polaris, S. P., (Ref.)		5		322 29 59.8	61.2	60.6	55.8	57.3	58.7	58.90	29.966	.962	30.197
	17	*h* Virginis		5	I–IX.	138 19 59.4	61.3	59.1	56.9	57.5	59.3	58.92	28.797	.802	
	18	Lacaille 5655		5	III–VII.	158 19 60.0	63.1	61.6	58.6	57.5	59.1	59.98	27.692	.708	30.186
	19	Lalande 25635		5	I–IX.	151 14 60.1	62.4	61.1	58.9	57.9	60.3	60.12	32.793	.804	
	20	Anon. 13h. 54m. 21s.		1	V.	164 24 61.4	64.0	62.6	61.1	58.9	62.5	61.75	36.402	.418	
	21	*α* Bootis		4	I–IV.	108 59 61.1	64.6	60.5	58.4	58.5	63.0	61.02	29.995	.979	
	22	*α* Bootis, (Ref.)		4	VI–IX.	250 59 61.5	63.0	63.1	60.2	61.6	65.5	62.48	30.039	.075	30.170
	23	Nadir 14h. 20m.		4		269 59 60.7	62.2	60.2	58.5	58.3	62.0	60.32	29.950	.959	
23	24	Sun N. L.		4	I–IV.	115 49 61.9	66.3	58.0	59.8	60.8	66.0	62.13	29.196	.208	30.138
	25	Sun S. L.		4	VI–IX.	116 24 60.9	65.0	58.0	58.6	59.9	65.0	61.23	35.315	.329	
	26	Weisse X, 94	9.0	1	V.	116 29 59.1	58.1	52.9	50.0	55.4	62.3	56.30	26.441	.455	
	27	Weisse X, 116	7.5	3	IV–VI.	" " "	"	"	"	"	"	"	24.970	.976	30.072
	28	Lalande 19981	9.0	1	VI.	116 49 58.7	57.6	52.5	50.0	54.9	61.9	55.93	18.938	.951	
	29	Weisse X, 209	7.5	1	V.	" " "	"	"	"	"	"	"	27.234	.253	
	30	Nadir 11h. 45m.		5		269 59 57.2	56.9	52.5	51.3	54.8	61.1	55.63	29.825	.836	
	31	Lacaille 4976	7.5	9	I–IX.	162 9 60.0	58.7	57.2	54.0	55.8	62.0	57.95	32.347	.379	30.080
	32	Lacaille 5042	7.5	1	V.	161 34 60.8	59.0	58.0	54.0	55.4	62.6	58.30	29.848	.850	
	33	Lacaille 5088	7.0	5	III–VII.	164 9 60.5	60.9	58.2	54.5	57.2	63.0	59.05	27.977	.990	
	34	Anon. 12h. 16m. 59s.	8.0	1	V.	154 4 61.1	60.2	58.9	53.1	57.2	63.0	58.92	24.889	.893	
	35	Lacaille 5143	7.0	5	III–VII.	" " "	"	"	"	"	"	"	27.798	.803	
	36	Anon. 12h. 28m. 54s.	7.5	1	V.	161 44 61.1	60.4	59.0	56.0	57.1	64.2	59.63	18.572	.579	
	37	*α* Canum Venat.		5	III–VII.	89 49 61.1	61.2	58.8	54.2	59.3	66.2	60.13	28.851	.847	
	38	Saturn S. L.		5	I–IX.	131 34 60.7	59.0	55.8	52.7	56.0	62.1	57.72	29.030	.041	
	39	Saturn N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	29.552	.562	
	40	Polaris, S. P.		5	5–1.	37 29 61.1	59.5	59.7	56.3	59.0	64.5	60.02	29.959	.970	30.080
25	41	Sun S. L.		4	I–IV.	115 44 57.4	57.5	55.1	52.7	53.5	61.2	56.23	33.338	.349	
	42	Sun N. L.		4	VI–IX.	115 9 60.3	61.9	58.6	56.4	56.4	63.1	59.45	27.407	.418	29.838
	43	Mercury		5	I–IX.	107 19 60.4	63.4	60.2	56.2	58.5	63.2	60.32	35.257	.266	29.830
	44	Nadir 9h. 10m.		5		269 59 60.7	56.0	56.8	53.6	54.7	62.4	57.37*d*	29.849	.860	
	45	*β* Cephei, S. P.		5	VII–III.	18 54 61.3	58.3	60.7	57.3	56.0	61.0	59.10	31.655	.680	29.849
	46	Lacaille 4026		5	I–IX.	154 39 62.0	58.8	58.9	53.9	55.0	61.6	58.37	31.390	.418	
	47	Anon. 9h. 50m. 19s.	7.5	2	VIII, IX.	167 44 61.0	58.9	60.9	56.9	55.9	61.0	59.10	31.045	.109	
	48	Anon. 9h. 58m. 0s.	7.0	5	I–IX.	167 24 61.3	59.3	60.1	57.6	55.8	60.4	59.08	25.343	.381	29.849
	49	B. A. C. 3495	4.7	5	1–5.	43 59 60.7	58.6	61.0	58.0	56.7	65.1	60.02	33.378	.394	
	50	Anon. 10h. 28m. 28s.	8.3	1	V.	166 14 63.0	61.5	61.6	59.6	57.0	63.5	61.03	28.116	.131	
	51	B. A. C. 7990, S. P.	4.5	3	5–1.	31 19 61.1	59.9	62.3	59.3	57.7	64.5	60.80	27.932	.937	29.856
	52	Lacaille 4596	6.8	5	III–VII.	158 39 61.1	60.2	60.6	57.0	54.9	61.0	59.13	28.426	.445	
	53	B. A. C. 3921	6.0	3	III–VII.	157 19 61.6	59.9	60.1	57.5	55.9	61.4	59.40	24.354	.377	29.854
	54	B. A. C. 3922	5.8	2	IV, VI.	" " "	"	"	"	"	"	"	24.635	.643	
	55	Lacaille 4882	8.0	1	V.	162 49 61.9	60.1	60.5	57.6	55.0	62.2	59.55	28.266	.285	
	56	B. A. C. 4009	5.3	5	III–VII.	158 54 61.5	60.1	61.2	58.4	54.8	61.0	59.50	28.653	.661	
	57	Lacaille 4967	6.8:	5	III–VII.	158 9 62.5	61.1	61.6	58.2	55.5	61.2	60.02	30.106	.124	
26	58	Sun N. L.		4	I–IV.	114 49 61.8	66.3	62.2	62.8	58.1	63.3	62.42	26.092	.099	29.902
	59	Sun S. L.		2	VIII, IX.	115 24 61.5	64.8	60.6	60.0	57.2	64.1	61.37	32.214	.224	
	60	Nadir		3		269 59 62.1	62.9	61.6	60.8	57.1	63.6	61.35	29.933	.944	
	61	45 Leonis	7.0	1	V.	118 24 62.8	64.1	58.8	59.7	55.2	62.9	60.58	27.811	.812	29.930
	62	Lacaille 4340	7.5	1	V.	155 29 59.2	59.8	59.1	57.2	53.5	57.2	57.67	28.109	.123	
	63	B. A. C. 3638	6.5	1	V.	" " "	"	"	"	"	"	"	21.180	.197	
	63	37 Sextantis	6.0	1	V.	121 49 59.9	61.0	58.1	58.3	53.6	59.1	58.33	33.771	.772	
	65	Weisse X, 703	7.0	1	V.	" " "	"	"	"	"	"	"	30.766	.767	
	66	Lacaille 4516	7.0	1	V.	155 9 60.4	62.5	60.1	59.5	55.0	59.7	59.53	35.149	.165	29.936
	67	*χ* Leonis	7.0	1	V.	120 49 58.6	59.9	57.5	56.8	53.7	58.4	57.48	31.550	.559	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.954	+ 2 8.0	— 48.8	50 31 20.8	+ 78 22 18.4	+ 82.1	Ha.	
2	. .	. .	. .	— 38.6	+ 3 46.8	165 38 9.2	— 36 44 30.0	101.9		
3	. .	. .	. .	— 51.0	+ 2 27.0	158 11 36.2	— 29 17 57.0	100.4		
4	. .	. .	. .	+ 48.4	— 0.2	89 50 50.0	+ 39 2 49.2	88.6		
5	50.0	43.3	. .	+ 34.5	— 0.2	89 50 36.1	+ 39 3 3.1	+ 88.6		
6	. .	. .	. .	— 1 38.4	+ 52.2	131 39 13.2	— 2 45 34.0			
7	. .	. .	. .	+ 0.9	— 1 17.4	37 28 45.9	+ 88 35 6.7	— 79.6		
8										
9	. .	. .	. .	+ 33.3	+ 11.7	281 5 46.4	49 59 25.7	+ 82.0		
10	. .	. .	. .	— 39.2	— 11.7	78 54 13.0	+ 49 59 26.2			
11	49.0	42.0	. .	— 2 22.1	— 59 29.2	143 3 8.4	— 14 9 29.2			
12	52.5	60.1	. .	+ 1 3.2	+ 39.4	126 31 43.7	+ 2 21 55.5		N.	
13	. .	. .	. .	2 7.4	25.0	116 42 32.1	12 27 1.9			
14	54.5	63.4	. .	20.2	+ 24.4	116 10 42.6				
15	. .	. .	. .	+ 0.6	— 1 16.2	37 28 44.5	88 35 5.3	— 79.2		
16	55.0	50.9	. .	— 0.2	+ 1 16.2	322 31 14.8	+ 88 35 5.9			From 13h. 10m. till 13h. 13m. 20s.
17	. .	. .	. .	+ 36.1	1 5.7	138 21 40.7	— 9 28 1.5	+ 90.3		
18	54.8	50.5	. .	+ 1 10.4	2 26.5	158 23 36.8	29 29 57.6	89.0		
19	. .	. .	. .	— 1 29.3	1 46.3	151 15 17.1	22 21 37.9	85.6		
20	. .	. .	. .	3 22.5	3 26.2	164 25 5.4	— 35 31 26.2	84.3		Very faint; observation uncertain by 2″ or 3″.
21	. .	. .	. .	0.8	+ 20.2	109 0 20.4	+ 19 53 18.8	80.0		
22	54.0	50.2	. .	— 3.8	— 20.2	250 59 38.4	19 53 17.7			Good.
23										
24	60.0	74.5	29.975	+ 24.0	+ 23.3	115 50 49.4	12 46 55.8		Ha.	
25	. .	. .	. .	— 2 47.7	23.9	116 22 37.4				
26	. .	. .	. .	+ 1 50.3	28.2	116 32 14.8	12 21 24.4	86.0		
27	67.5	67.1	. .	2 36.6	28.2	116 33 1.1	12 20 38.1	86.2		
28	. .	. .	. .	5 45.4	28.7	116 56 10.0	11 57 29.2	86.7		
29	. .	67.1	. .	+ 1 25.3	28.6	116 51 49.8	+ 12 1 49.4	87.2		
30										Very uncertain, owing to tremendous gale.
31	65.5	64.8	. .	— 1 15.3	2 54.0	162 11 36.6	— 33 17 57.4	103.5		
32	. .	. .	. .	+ 3.9	2 48.6	161 37 50.8	32 44 11.6	103.0		
33	. .	. .	. .	1 2.2	3 17.3	164 14 18.5	35 20 39.3	102.6		
34	. .	. .	. .	2 39.2	1 56.5	154 9 34.6	25 15 55.4	101.1		
35	. .	. .	. .	1 8.1	1 56.3	154 8 3.3	25 14 24.1	101.0		
36	. .	. .	. .	5 57.1	+ 2 51.3	161 53 48.0	— 33 0 8.8	100.6		
37	. .	. .	. .	35.3	— 0.2	89 50 35.2	+ 39 3 4.0	+ 88.1		
38	. .	. .	. .	29.3	+ 49.8	131 36 16.8	— 2 42 29.4			
39	. .	. .	. .	12.9	+ 49.8	131 36 0.4				
40	65.0	63.3	. .	+ 0.2	— 1 14.0	37 28 46.2	+ 88 35 7.0	— 78.9		
41	. .	. .	29.944	— 1 46.7	+ 23.2	115 43 32.7	13 26 2.2		N.	
42	65.5	68.1	. .	+ 1 19.2	22.7	115 11 41.3				
43	66.5	70.7	. .	— 2 46.8	+ 14.7	107 17 28.2	21 36 11.0			
44										
45	67.3	65.1	. .	55.4	— 2 42.6	18 51 22.1	+ 69 57 42.9	— 55.5		Very unsteady.
46	. .	. .	. .	46.2	+ 1 58.3	154 41 10.4	— 25 47 31.2	+ 92.8		
47	. .	. .	. .	— 36.5	4 13.0	167 48 35.6	38 54 56.4	97.0		
48	66.8	63.6	. .	+ 2 23.0	+ 4 7.6	167 31 29.6	— 38 37 50.4	98.2		
49	. .	. .	. .	— 1 48.1	— 58.5	43 57 13.4	+ 84 56 25.8	66.6		
50	. .	. .	. .	+ 56.8	+ 3 47.0	166 19 44.8	— 37 26 5.6	+ 102.1		
51	66.0	60.9	. .	1 2.9	— 1 32.8	31 19 30.9	+ 82 25 51.7	— 71.9		
52	. .	. .	. .	47.0	+ 2 24.2	158 43 10.3	— 29 49 31.1	+ 103.3		
53	65.5	61.1	. .	2 54.4	2 15.2	157 25 9.0	28 31 29.8	104.0		Double star.
54	. .	. .	. .	2 46.1	2 15.2	157 25 0.7	28 31 21.5	104.0		Double star.
55	. .	. .	. .	52.0	3 1.5	162 53 53.0	34 0 13.8	104.6		
56	. .	. .	. .	+ 40.2	2 26.0	158 58 5.7	30 4 26.5	103.8		
57	. .	. .	. .	— 5.6	2 20.5	158 12 14.9	— 29 18 35.7	103.5		
58	63.0	63.1	29.909	+ 1 59.4	22.6	114 52 24.4	+ 13 45 21.0		Ha.	
59	. .	. .	. .	— 1 12.5	23.2	115 24 12.0				
60										
61	61.5	56.2	. .	+ 1 5.7	31.1	118 26 37.3	+ 10 27 1.9	88.8		
62	. .	. .	. .	56.0	2 5.4	155 32 59.0	— 26 39 19.8	100.0		
63	. .	. .	. .	+ 4 33.0	2 5.8	155 36 36.4	— 26 42 57.2	100.2		
64	. .	. .	. .	— 2 1.0	35.6	121 48 32.9	+ 7 5 6.3	92.3		
65	. .	. .	. .	26.9	35.7	121 50 7.1	+ 7 3 32.1	102.6		
66	61.0	55.3	. .	2 44.7	2 3.3	155 9 18.1	— 26 15 38.9	102.0		
67	. .	. .	. .	— 51.7	+ 34.3	120 49 40.0	+ 8 3 59.2	+ 94.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
April 26	1	δ Leonis		5	I–IX.	107 39 59.8	62.0	60.7	58.6	55.1	60.6	59.47	34.810	.806	
	2	δ Hydræ et Crateris		5	I–IX.	142 54 60.0	61.1	60.4	59.0	54.6	59.5	59.10	29.259	.284	
	3	83 Leonis	8.0	1	V.	125 9 60.9	63.1	61.8	59.1	56.0	61.0	60.32	33.740	.741	
	4	τ Leonis	6.0	1	V.	" " "	"	"	"	"	"	"	16.602	.608	
	5	υ Leonis		1	V.	128 59 60.9	62.0	59.2	58.9	55.2	61.1	59.55	34.605	.611	
	6	B. A. C. 3975	7.0	1	V.	134 49 58.0	61.0	58.2	57.1	53.9	59.2	57.90	33.150	.166	29.932
27	7	Sun S. L.		4	I–IV.	115 4 61.8	61.5	58.2	58.4	56.4	65.0	60.22	30.334	.346	
	8	Sun N. L.		4	VI–IX.	114 34 60.4	61.8	58.3	58.7	56.2	64.0	59.90	33.785	.781	29.880
	9	Mercury		5	I–IX.	106 34 60.1	63.0	58.9	58.1	57.9	63.9	60.32	30.064	.066	29.836
	10	Venus, centre		5	III–VII.	123 39 60.0	67.7	64.9	64.0	56.9	58.1	61.93	29.990	.997	29.980
28	11	Sun N. L.		4	I–IV.	114 14 60.0	67.8	64.3	64.0	59.0	60.2	62.55	31.651	.647	
	12	Sun S. L.		4	VI–IX.	114 44 57.0	64.5	61.0	60.3	56.0	57.2	59.33	28.051	.057	29.980
	13	Lacaille 4668	7.0	1	V.	166 29 56.9	62.3	61.3	63.0	54.4	54.9	58.80	46.795	.796	30.116
	14	Lacaille 4680	7.0	1	V.	" " "	"	"	"	"	"	"	30.670	.673	
	15	Lacaille 4761	7.0	1	V.	153 59 55.7	60.5	60.3	59.4	52.0	53.0	56.82	39.386	.403	
	16	Anon. 11h. 33m. 31s.	7.0	1	V.	156 34 59.9	64.1	62.2	63.6	55.2	56.4	60.23	27.347	.365	
	17	Anon. 11h. 45m. 28s.	7.5	1	V.	165 49 55.8	61.1	59.5	60.9	52.2	52.8	57.05	29.918	.923	
	18	B. A. C. 4023	6.0	1	V.	" " "	"	"	"	"	"	"	30.044	.055	30.138
	19	Nadir 12h. 10m.		3		269 59 60.2	65.8	63.1	65.0	57.1	58.7	61.65	29.960	.970	
	20	Saturn N. L.		3	I–IX.	131 29 60.0	65.9	63.0	63.8	56.0	57.1	60.97	34.136	.151	30.146
	21	Saturn S. L.		2	III, VII.	" " "	"	"	"	"	"	"	33.591	.597	
	22	Polaris, S. P.		5	5–1.	37 29 60.3	66.7	66.4	67.8	59.0	58.9	63.18	29.988	.001	
	23	α Virginis		2	VI, IX.	139 19 60.5	66.5	63.7	66.1	58.0	56.0	61.80	30.381	.418	
	24	Anon. 13h. 29m. 45s.	7.0	1	V.	164 44 59.8	66.0	65.0	66.6	57.4	57.4	62.03	33.886	.890	
	25	Anon. 13h. 36m. 25s.	7.5	1	V.	" " "	"	"	"	"	"	"	34.331	.350	
	26	Lacaille 5686		1	V.	156 29 59.8	64.7	63.2	64.3	55.9	56.4	60.72	24.551	.560	
	27	O. Arg. S. 13177	7.5	1	V.	" " "	"	"	"	"	"	"	30.908	.912	
	28	O. Arg. S. 13182	7.5	1	VI.	" " "	"	"	"	"	"	"	36.360	.388	30.148
	29	Venus		5	III–VII.	123 9 61.3	66.6	64.9	66.1	58.0	59.3	62.70	26.765	.765	30.201
29	30	Sun S. L.		4	I–IV.	114 24 62.5	68.0	65.9	66.0	61.5	61.6	64.25	25.510	.513	
	31	Sun N. L.		4	VI–IX.	113 54 63.5	69.2	66.8	67.1	62.8	62.3	65.28	28.961	.963	30.196
	32	Nadir 2h. 50m.		5		269 59 60.5	63.2	61.5	62.0	58.6	59.5	60.88*d*	29.959	.970	
	33	1 (Hev.) Draconis		6	VI–VII.	46 59 55.1	56.0	57.7	54.1	55.6	55.5	55.67	31.593	.542	30.150
	34	β Cephei, S. P.		4	IV–I.	18 54 57.3	58.5	60.4	57.8	56.2	54.7	57.48	31.442	.538	
	35	Lacaille 4389	7.2	1	V.	161 44 58.9	60.1	61.9	59.3	55.5	58.1	58.97	28.933	.938	30.150
	36	ι Cephei, S. P.		5	VII–III.	14 24 59.8	62.0	62.8	60.0	58.0	57.5	60.02	27.320	.356	
	37	B. A. C. 7990, S. P.	4.3	1	1	31 19 60.8	62.5	64.0	62.2	60.5	60.8	61.80	27.963	.969	
	38	Lacaille 4580	5.7	3	IV–VI.	163 59 60.6	61.9	63.0	59.5	57.9	59.0	60.32	39.247	.268	30.159
	39	Lacaille 4630	7.7	5	III–VII.	154 9 60.5	61.9	62.0	58.6	57.1	58.4	59.75	34.789	.793	
	40	Lacaille 4638	7.3	1	V.	" " "	"	"	"	"	"	"	18.804	.805	
	41	Lacaille 4655	8.0	5	III–VII.	" " "	"	"	"	"	"	"	25.875	.880	
	42	Lacaille 4710		5	III–VII.	163 49 60.3	61.2	63.0	58.7	57.8	58.3	59.88	31.456	.475	
	43	B. A. C. 8213, S. P.		5	5–1.	35 29 59.7	61.4	62.5	60.9	58.1	59.0	60.27	33.037	.050	30.159
	44	γ Cephei, S. P.	3.0	3	5–1.	25 49 61.2	64.6	65.6	62.7	60.2	60.6	62.48	33.905	.909	
	45	B. A. C. 3988	7.0	5	III–VII.	158 24 61.2	63.0	63.5	61.1	57.5	58.5	60.80	33.840	.846	
	46	Lacaille 4930	8.0	5	III–VII.	164 4 60.2	61.8	62.4	59.6	57.6	58.6	60.03	30.281	.305	
	47	Lacaille 4955	7.2	5	III–VII.	155 44 60.1	61.2	61.0	57.6	56.7	56.9	58.92	25.149	.169	
	48	4 Draconis		3	III–V.	50 29 60.5	61.8	63.6	60.8	59.4	62.6	61.45	25.929	.896	
	49	4 Draconis, (Ref.)		1	VI.	309 29 59.2	61.5	61.0	55.0	56.8	56.9	58.40	33.949	.986	30.160
	50	20 Comæ Berenicis	6.0	4	I–IV.	107 14 59.7	62.5	62.1	57.1	58.0	58.0	59.57	30.770	.745	
	51	20 Comæ Berenicis, (Ref.)		4	VI–IX.	252 44 60.7	62.3	63.4	60.5	59.5	62.1	61.42	29.170	.212	
	52	Nadir 12h. 35m.		3		269 59 60.9	62.7	61.6	60.5	59.8	60.4	60.98	29.958	.969	
	53	Lacaille 5295	7.7	1	V.	158 39 61.6	65.1	64.5	61.2	59.4	58.9	61.78	26.774	.775	
	54	Anon. 12h. 46m. 41s.	7.5	1	V.	167 19 61.3	63.9	63.1	60.8	59.0	58.5	61.10	18.811	.812	
	55	Saturn		5	III–VII.	131 24 60.7	62.0	61.0	58.3	57.0	57.8	59.47	26.878	.881	30.161
	56	Anon. 13h. 4m. 10s.	8.5	5	III–VII.	165 29 60.9	63.5	63.0	61.7	58.9	58.8	61.13	28.743	.749	
	57	Polaris, S. P.		5	2–1.	37 29 61.1	63.3	64.6	63.6	60.2	61.0	62.30	30.024	.039	30.156
	58	α Virginis		5	I–IX.	139 19 61.0	63.1	61.0	60.6	58.5	58.0	60.37	30.285	.308	
	59	A Cassiopeæ, S. P.		4	IV–I.	18 29 60.1	61.8	63.5	62.9	58.6	57.5	60.73	29.344	.443	
	60	Weisse XIII, 461	8.8	1	V.	121 39 60.1	62.5	61.3	59.5	57.1	57.7	59.70	21.834	.836	
	61	Weisse XIII, 472	9.3	1	VI.	" " "	"	"	"	"	"	"	28.270	.296	
	62	Lacaille 5663	6.0	1	V.	153 39 60.9	62.7	62.8	60.4	56.8	58.6	60.37	28.299	.318	
	63	Lacaille 5710		5	I–IX.	152 34 60.8	62.4	63.5	60.6	57.1	58.9	60.55	31.324	.354	30.150
May 2	64	Sun N. L.		3	II–IV.	112 59 61.7	64.2	62.5	60.9	59.6	61.7	61.77	27.287	.300	
	65	Sun S. L.		3	VII–IX.	113 34 59.6	62.8	60.4	59.0	57.2	59.8	59.80	33.545	.546	29.773

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.909	— 2 33.4	+ 18.3	107 37 44.3	+ 21 15 54.9	+ 90.9	Ha.	
2	. .	. .	. .	+ 19.6	1 16.1	142 56 34.8	— 14 2 55.5	100.8		
3	. .	. .	. .	— 2 0.1	40.5	125 8 40.7	+ 3 44 58.5	96.7		
4	. .	. .	. .	+ 6 56.8	40.8	125 17 37.9	+ 3 36 1.3	96.8		
5	. .	. .	. .	— 2 27.3	46.6	128 58 18.8	— 0 4 39.6	98.0		
6	60.5	53.8	. .	1 42.1	57.2	134 49 13.0	— 5 55 33.8	99.5		
7	. .	. .	. .	13.7	22.5	115 5 9.0			N.	
8	65.5	69.5	. .	2 1.3	22.0	114 33 20.6	+ 14 4 24.4			
9	65.5	73.0	. .	4.9	13.8	106 35 9.2	22 18 30.0			
10	53.5	51.5	. .	2.1	35.7	123 40 35.5	5 13 3.7		Ha.	
11	. .	. .	. .	— 54.5	22.5	114 14 30.5				
12	58.0	54.7	. .	+ 58.0	23.1	114 46 20.3	+ 14 23 13.8			
13	52.0	46.0	. .	— 8 49.2	3 58.3	166 25 7.9	— 37 31 28.7	105.3		
14	. .	. .	. .	23.9	4 0.8	166 33 35.7	37 39 56.5	105.4		
15	. .	. .	. .	— 4 57.5	2 0.0	153 56 59.3	25 3 20.1	103.5		
16	. .	. .	. .	+ 1 19.7	2 15.8	156 38 35.7	27 44 56.5	104.0		
17	. .	. .	. .	— 0.4	3 50.2	165 53 46.8	37 0 7.6	105.2		
18	52.0	44.6	. .	4.6	3 50.2	165 53 42.6	37 0 3.4	+ 105.1		
19										Uncertain.
20	51.5	43.0	. .	2 12.9	51.8	131 28 39.8				
21	. .	. .	. .	1 55.6	+ 51.8	131 28 57.1	— 2 35 9.2			Planet very unsteady.
22	. .	. .	. .	2.9	— 1 17.3	37 28 42.9	+ 88 35 3.6	— 77.7		
23	. .	. .	. .	15.9	+ 1 9.1	139 20 55.0	— 10 27 15.8	+ 92.0		
24	. .	. .	. .	2 4.8	3 34.5	164 46 31.7	35 52 52.5	91.3		
25	. .	. .	. .	— 2 19.2	3 34.6	164 46 17.4	35 52 38.2	89.8		
26	. .	. .	. .	+ 2 47.6	2 16.5	156 35 4.8	27 41 25.6	88.4		
27	. .	. .	. .	— 31.4	2 16.1	156 31 45.4	27 38 6.2	88.1		
28	50.5	41.3	. .	— 3 23.0	2 15.9	156 28 53.6	— 27 35 14.4	88.0		
29	52.5	53.0	29.942	+ 1 39.5	35.2	123 12 17.4	+ 5 41 21.8		N.	Excessively bad image. Observation hardly worth anything.
30	. .	. .	. .	2 18.8	22.7	114 27 45.7				
31	55.0	58.3	. .	+ 30.7	+ 22.2	113 55 58.1	14 41 47.3			
32										
33	. .	56.9	. .	— 50.1	— 53.8	46 58 11.7	81 55 27.5	+ 55.1		
34	. .	. .	. .	— 50.0	— 2 47.1	18 51 20.3	+ 69 57 41.0	— 55.5		Good.
35	58.0	55.0	. .	+ 31.5	+ 2 54.0	161 48 24.4	— 32 54 45.2	+ 102.2		
36	. .	. .	. .	1 21.1	— 3 41.4	14 22 39.7	+ 65 29 0.4	— 70.7		Unsteady.
37	. .	. .	. .	+ 1 1.8	— 1 35.0	31 19 28.6	+ 82 25 49.3	— 71.4		
38	57.6	54.0	. .	— 4 52.2	+ 3 18.8	163 58 26.9	— 35 4 47.7	+ 104.6		
39	. .	. .	. .	— 2 32.0	1 59.2	154 9 26.9	25 15 47.7	103.0		
40	. .	. .	. .	+ 5 48.9	2 0.0	154 17 48.6	25 24 9.4	103.1		
41	. .	. .	. .	2 7.3	1 59.7	154 14 6.7	25 20 27.5	103.2		
42	. .	. .	. .	+ 48.0	+ 3 18.0	163 54 5.8	— 35 0 26.6	+ 105.2		
43	57.0	53.0	. .	— 1 37.4	— 1 21.5	35 27 1.3	+ 86 33 22.0	— 76.2		
44	. .	. .	. .	2 4.3	— 1 59.9	25 45 58.2	+ 76 52 18.9	— 76.1		Good.
45	. .	. .	. .	2 2.3	+ 2 26.0	158 25 24.5	— 29 31 45.3	+ 104.4		
46	. .	. .	. .	— 11.4	3 21.6	164 8 10.2	35 14 31.0	105.0		
47	. .	. .	. .	+ 2 29.6	+ 2 9.0	155 49 37.5	— 26 55 58.3	103.6		
48	. .	. .	. .	+ 2 6.8	— 48.0	50 31 20.2	+ 78 22 19.0	80.3		Much blurred.
49	56.3	51.4	. .	— 2 6.7	+ 48.0	309 28 39.7	78 22 18.9			Fair reading.
50	. .	. .	. .	— 25.2	+ 18.1	107 14 52.4	21 38 46.8	92.2		
51	. .	. .	. .	+ 22.9	— 18.1	252 45 6.2	+ 21 38 45.4			
52										
53	. .	. .	. .	1 39.2	+ 2 29.0	158 44 9.9	— 29 50 30.7	99.5		
54	. .	. .	. .	5 48.7	4 16.7	167 30 6.5	38 36 27.3	99.7		
55	55.7	49.9	. .	1 35.9	51.0	131 27 26.3	2 33 47.1			
56	. .	. .	. .	+ 37.4	+ 3 42.9	165 34 21.4	— 36 40 42.2	+ 96.7		
57	55.5	49.8	. .	— 3.0	— 1 16.2	37 28 43.1	+ 88 35 3.8	— 77.4		
58	. .	. .	. .	— 11.5	+ 1 8.2	139 20 57.0	— 10 27 17.8	+ 92.3		
59	. .	. .	. .	+ 15.6	— 2 53.4	18 27 22.9	+ 69 33 43.6	— 74.9		
60	. .	. .	. .	4 14.0	+ 36.3	121 44 50.0	7 8 49.2	+ 88.1		
61	. .	. .	. .	51.6	36.2	121 41 27.5	+ 7 12 11.7	88.1		
62	. .	. .	. .	+ 50.9	1 58.1	153 42 49.3	— 24 49 10.1	89.8		
63	55.0	48.7	. .	— 44.3	1 52.6	152 36 8.8	— 23 42 29.6	+ 87.8		
64	. .	. .	. .	+ 1 22.8	20.5	113 1 45.0				
65	60.0	65.3	. .	— 1 52.9	+ 21.0	113 33 27.9	+ 15 36 2.8			Very good, but interrupted by clouds.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
May 4	1	Sun S. L.		4	I–IV.	112 59 59.5	64.2	60.8	61.5	57.9	61.5	60.90	33.312	.321	
	2	Sun N. L.		4	VI–IX.	112 24 60.1	63.5	59.3	59.9	58.8	61.0	60.43	27.079	.088	30.113
	3	Mercury		3	III–VII.	105 24 59.3	65.5	61.6	61.0	61.6	62.5	61.92	33.847	.845	30.108
	4	B. A. C. 3593		3	1–5.	52 29 59.1	60.3	62.9	59.6	58.6	62.9	60.57	30.734	.734	
	5	B. A. C. 7851, S. P.		5		34 19 59.3	62.3	63.5	60.6	58.4	61.3	60.90	29.474	.489	30.132
	6	Lacaille 4406	7.5	5	III–VII.	154 9 59.3	59.9	59.9	56.5	55.4	58.2	58.20	25.516	.530	
	7	ι Cephei, S. P.		3	VI–IV.	14 24 59.6	61.5	62.8	59.1	58.0	59.0	60.00	27.361	.384	
	8	B. A. C. 7990, S. P.		3	5–1.	31 19 59.9	60.9	62.6	60.3	59.2	61.1	60.67	27.960	.968	30.139
	9	Nadir 11h. 5m.		3		269 59 59.5	60.4	59.6	57.5	57.8	59.6	59.07	29.907	.918	
	10	Lacaille 4725	7.7	5	III–VII.	156 59 60.8	61.8	61.8	58.2	57.6	58.9	59.85	28.246	.269	
	11	Lacaille 4761	7.0:	5	III–VII.	153 59 61.0	62.5	63.4	58.5	57.5	59.3	60.37	39.439	.457	
	12	O. Arg. S. 11444	8.0:	1	VII.	" " "	"	"	"	"	"	"	27.869	.919	
	13	B. A. C. 3974	6.3	1	V.	165 19 60.7	62.4	61.6	59.2	58.3	59.2	60.23	36.528	.538	30.152
	14	B. A. C. 4025	7.2	1	V.	129 34 60.2	61.5	60.0	57.9	56.9	59.4	59.32	31.619	.624	
	15	Anon. 11h. 54m. 7s.	7.8	5	III–VII.	154 34 60.5	62.1	62.6	58.4	57.6	60.0	60.20	29.221	.243	
	16	10 Virginis	6.0	5	III–VII.	126 9 61.4	62.8	61.2	57.1	57.8	59.5	59.97	23.218	.236	
	17	Anon. 12h. 11m. 45s.	6.0	5	III–VII.	128 54 62.0	62.9	61.6	58.9	59.0	60.3	60.78	29.971	.978	30.170
	18	Saturn N. L.		5	I–IX.	131 19 60.8	62.1	60.9	57.8	56.9	58.8	59.55	30.082	.096	30.186
	19	Saturn S. L.		4	II–VIII.	" " "	"	"	"	"	"	"	29.536	.546	
	20	a^2 Libræ		5	I–IX.	144 19 61.3	64.0	62.7	61.8	57.7	59.6	61.18	28.186	.210	30.191
	21	Lacaille 6198	5.8	5	III–VII.	160 54 60.4	62.0	65.0	60.6	54.5	57.9	60.07	25.659	.666	
	22	O. Arg. S. 14421	9.0	5	III–VII.	158 49 60.5	63.8	64.0	62.5	56.4	58.0	60.87	30.402	.422	
	23	O. Arg. S. 14487	8.8	1	V.	" " "	"	"	"	"	"	"	40.342	.360	
	24	Jupiter S. L.		1	III.	116 24 60.6	62.8	62.9	60.0	57.1	59.1	60.42	25.110	.116	30.192
	25	Jupiter N. L.		1	V.	" " "	"	"	"	"	"	"	26.495	.507	
	26	B. A. C. 5220	7.0	3	IV–VI.	152 14 59.8	63.0	64.1	61.2	57.9	59.2	60.87	27.048	.060	
	27	Thetis	9.5	1	V.	138 49 59.3	63.0	62.4	60.9	57.8	57.3	60.12	30.378	.395	30.194
	28	Polaris		5	1–5.	40 19 60.6	65.9	64.2	64.0	59.5	62.8	62.83	30.552	.556	30.308
	29	Venus, centre		5	III–VII.	120 24 59.6	63.1	59.8	58.9	57.1	59.8	59.72	30.126	.140	30.306
5	30	Sun N. L.		4	I–IV.	112 9 60.0	62.1	58.6	58.1	57.0	60.1	59.32	30.940	.936	30.284
	31	Sun S. L.		4	VI–IX.	112 39 59.0	62.0	58.0	56.7	57.0	59.1	58.63	27.576	.579	
	32	Mercury, centre		4	III–VI.	105 19 60.0	63.5	59.5	59.0	59.8	61.9	60.62	26.446	.454	30.256
	33	Nadir 12h. 32m.		5		269 59 60.2	58.0	57.1	54.1	55.0	59.8	57.38*d*	29.852	.855	
	34	Anon. 12h. 38m. 19s.		1	V.	165 54 60.5	60.6	58.6	57.0	55.8	59.2	58.62	30.168	.185	30.212
	35	Weisse XII, 757	8.0	5	III–VII.	127 59 60.4	58.8	56.2	53.9	55.2	58.0	57.08	23.054	.065	
	36	Weisse XII, 876	9.0	1	V.	" " "	"	"	"	"	"	"	25.822	.823	
	37	Saturn S. L.		5	I–IX.	131 19 60.7	59.3	57.1	54.9	55.0	57.9	57.48	31.812	.814	
	38	Saturn N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	32.301	.321	
	39	Polaris, S. P.		5	V.	37 29 61.0	61.8	61.6	59.8	58.8	61.3	60.72	30.058	.070	
	40	O. Arg. S. 12811	7.5	5	III–VII.	150 34 61.2	60.2	60.8	56.9	56.4	58.8	59.05	35.006	.025	
	41	Lacaille 5510	7.5	2	VIII, IX.	153 59 62.4	62.0	61.2	58.0	56.2	60.3	60.02	30.517	.566	
	42	Anon. 13h. 21m. 42s.	7.0	5	III–VII.	163 44 62.1	61.9	61.7	57.1	57.1	60.3	60.03	34.714	.721	30.202
	43	Lacaille 5625	6.0	5	III–VII.	168 9 61.5	60.6	60.2	58.2	56.0	58.4	59.15	28.099	.119	
	44	Lacaille 5676	7.0	5	III–VII.	164 24 61.8	61.9	60.6	58.1	57.5	60.0	59.98	30.490	.507	
	45	Lacaille 5710	7.5	5	III–VII.	152 34 62.2	62.0	61.9	58.0	57.0	60.9	60.33	31.280	.302	
	46	η Bootis		3	IV–VI.	109 49 62.1	62.6	60.0	57.1	58.0	61.2	60.17	32.617	.621	30.206
	47	Jupiter S. L.		5	I–IX.	146 24 62.8	63.1	60.8	59.0	57.9	61.9	60.92	28.506	.525	30.202
	48	Jupiter N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	29.868	.876	
	49	Thetis	10.0	1	V.	138 44 61.3	62.3	59.9	59.0	57.3	58.6	59.73	26.798	.799	30.200
	50	Venus		5	I–IX.	119 59 61.5	61.9	58.2	56.5	58.2	60.0	59.38	34.388	.401	30.145
6	51	Mercury		1	VIII.	105 19 57.2	57.9	54.1	52.2	57.9	62.0	56.88	24.412	.436	30.096
	52	Nadir		3		269 59 61.1	54.6	56.5	49.5	57.0	61.0	56.62	29.834	.846	
	53	β Orionis		1	VII.	137 14 60.2	60.6	58.0	51.4	57.5	60.5	58.03	30.845	.862	30.077
	54	α Orionis		1	V.	121 29 60.4	61.0	57.2	54.4	59.1	59.2	58.55	28.955	.961	30.050
	55	B. A. C. 7851, S. P.		2	5, 1.	34 19 60.0	59.0	60.3	54.9	57.9	60.1	58.70	29.420	.437	
	56	Nadir 10h. 50m.		3		269 59 59.7	56.4	55.0	51.5	55.6	59.8	56.33	29.858	.870	
	57	Nadir 12h. 43m.		3		269 59 59.4	57.1	57.3	52.5	56.0	60.5	57.13	29.855	.866	
	58	Saturn, centre		3	II, V, IX.	131 19 61.4	59.2	57.6	52.0	55.2	59.1	57.42	34.240	.262	
	59	Venus, centre		5	III–VII.	119 29 59.7	62.0	57.7	55.2	55.8	60.3	58.45	28.751	.751	29.982
7	60	Sun S. L.		4	I–IV.	112 9 60.8	63.2	59.0	58.1	59.0	63.1	60.53	33.877	.858	29.974
	61	Sun N. L.		4	VI–IX.	111 34 61.7	64.0	60.0	58.9	60.4	64.0	61.50	27.601	.603	
	62	Nadir 12h. 20m.		3		269 59 61.7	56.1	58.0	52.5	56.1	63.2	57.93	29.914	.918	
	63	*f* Virginis		5	III–VII.	133 59 62.0	60.5	58.8	54.0	57.8	63.9	59.50	33.890	.895	29.904
	64	Lalande 23832	8	1	V.	114 29 61.9	61.3	61.0	55.8	57.9	64.9	60.47	26.488	.500	
	65	Saturn, centre		5	III–VII.	131 19 62.4	59.8	58.5	53.5	56.8	62.0	58.83	36.549	.558	
	66	Polaris, S. P.		5	V.	37 29 60.9	59.9	62.0	56.8	59.0	63.1	60.28	30.120	.137	29.900

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.942	— 1 45.9	+ 20.9	112 58 35.9 }	+ 16 10 56.2		N.	
2	59.3	61.5	. .	+ 1 29.4	20.4	112 26 50.2 }				
3	60.4	64.5	. .	— 2 2.3	+ 12.7	105 23 12.3	23 30 26.9			Faint.
4	. .	. .	. .	— 24.8	— 44.2	52 28 51.5	76 24 47.7	+ 69.5		
5	61.3	57.7	. .	+ 14.2	— 1 24.1	34 18 51.0	+ 85 25 11.7	— 67.3		At 10h. 25m. 5s., 25m. 37s., 26m. 9s., 26m. 32s., and 27m. 2s
6	. .	. .	. .	2 18.3	+ 1 58.7	154 14 15.2	— 25 20 36.0	+ 100.8		
7	. .	. .	. .	1 20.2	— 3 40.3	14 22 39.9	+ 65 29 0.6	— 70.1		
8	61.0	56.6	. .	1 1.8	— 1 34.5	31 19 27.9	+ 82 25 48.6	— 70.7		
9										
10	. .	. .	. .	+ 52.4	+ 2 15.9	157 3 8.1	— 28 9 28.9	+ 104.2		
11	. .	. .	. .	— 4 58.1	1 58.0	153 57 0.2	25 3 21.0	103.7		
12	. .	. .	. .	+ 1 3.4	1 58.6	154 3 2.3	25 9 23.1	103.8		
13	60.0	53.2	. .	— 3 26.7	3 37.7	165 20 11.2	— 36 26 32.0	105.6		
14	. .	. .	. .	— 52.7	48.0	129 34 54.6	+ 0 41 15.4	97.6		
15	. .	. .	. .	+ 21.9	2 1.9	154 37 24.0	— 25 43 44.8	103.5		
16	. .	. .	. .	+ 3 30.1	42.6	126 14 12.6	+ 2 39 26.6	96.8		
17	59.0	52.8	. .	— 1.1	47.0	128 55 46.6	— 0 2 7.4	97.2		
18	58.0	51.5	. .	— 4.9	50.7	131 20 45.3 }	2 27 14.7			
19	. .	. .	. .	+ 12.4	50.7	131 21 2.6 }				
20	53.6	48.0	. .	54.3	1 21.9	144 22 17.3	15 28 38.1	71.7		
21	. .	. .	. .	+ 2 14.0	2 48.9	161 0 2.9	32 6 23.7	67.8		
22	. .	. .	. .	— 15.0	2 30.9	158 52 16.7	29 58 37.5	62.6		
23	. .	. .	. .	— 5 26.4	2 30.2	158 47 4.6	29 53 25.4	61.0		
24	52.5	47.7	. .	+ 2 31.2	1 27.0	146 28 58.6 }	17 34 57.6			
25	. .	. .	. .	1 47.6	1 27.0	146 28 15.0 }				
26	. .	. .	. .	+ 1 30.3	1 51.8	152 18 22.9	23 24 43.7	+ 51.8		
27	52.7	46.8	. .	— 14.2	+ 1 7.3	138 50 53.2	— 9 57 14.0			
28	59.5	68.1	. .	19.2	— 1 6.8	40 18 36.8	+ 88 35 2.4	— 75.8	Ha.	
29	60.0	69.0	. .	6.2	+ 30.5	120 25 24.0	8 28 15.2			
30	61.5	71.8	. .	— 31.1	19.8	112 9 48.0 }	16 27 58.7			
31	. .	. .	. .	+ 1 14.0	20.3	112 41 32.9 }				
32	63.5	73.8	. .	+ 1 49.3	12.4	105 22 2.3	+ 23 31 36.9			
33										
34	63.0	58.2	. .	— 7.6	3 45.8	165 58 36.8	— 37 4 57.6	+ 101.5		
35	. .	. .	. .	+ 3 35.5	45.2	128 4 17.7	+ 0 49 21.5	94.4		
36	. .	. .	. .	+ 2 9.1	45.1	128 2 51.2	+ 0 50 48.0	+ 94.2		
37	. .	. .	. .	— 58.7	50.0	131 19 48.7 }	— 2 26 1.6			
38	. .	. .	. .	1 14.5	+ 50.0	131 19 32.9 }				
39	. .	. .	. .	4.0	— 1 15.1	37 28 41.6	+ 88 35 2.3	— 75.7		All readings at wire V.
40	. .	. .	. .	2 39.3	+ 1 41.8	150 34 1.5	— 21 40 22.3	+ 94.1		
41	. .	. .	. .	19.6	1 57.7	154 1 38.1	25 7 58.9	94.2		
42	63.0	58.0	. .	— 2 29.7	3 14.8	163 45 45.1	34 52 5.9	93.8		
43	. .	. .	. .	+ 57.4	4 29.1	168 15 25.3	39 21 46.1	91.8		
44	. .	. .	. .	— 17.7	3 24.2	164 28 6.4	35 34 27.2	90.0		
45	. .	. .	. .	42.6	1 51.0	152 36 8.7	— 23 42 29.5	88.1		
46	62.5	56.5	. .	— 1 23.9	20.9	109 48 57.1	+ 19 4 42.1	+ 82.0		
47	61.0	55.2	. .	+ 44.4	1 25.6	146 27 10.9 }	— 17 33 10.5			
48	. .	. .	. .	2.1	1 25.6	146 26 28.6 }				
49	61.0	54.2	. .	+ 1 38.5	1 6.3	138 47 44.5	— 9 54 5.3			
50	63.5	73.4	29.967	— 2 18.9	29.5	119 58 9.9	+ 8 55 29.3		N.	
51	70.0	82.9	. .	+ 2 53.3	11.9	105 23 2.0	+ 23 30 37.2			Very faint.
52									D.	
53	72.5	81.0	. .	— 28.0	59.4	137 15 29.4	— 8 21 50.2	— 7.8		Bar. and therm. from Meteorological Journal.
54	73.2	82.8	. .	+ 31.5	+ 33.5	121 31 3.5	+ 7 22 35.7	+ 5.2		Bar. and therm. from Meteorological Journal.
55	. .	. .	. .	+ 16.6	— 1 21.8	34 18 53.5	+ 85 25 14.3	— 67.2		
56	68.8	68.4								Barometer and thermometer at 11h. 0m.
57	68.7	66.3								Barometer and thermometer at 12h. 4m.
58	. .	. .	. .	— 2 14.6	+ 49.0	131 18 31.8	— 2 24 52.6			
59	68.5	82.3	29.985	+ 38.7	28.3	119 31 5.4	+ 9 22 33.8		Ha.	
60	71.5	85.0	. .	— 2 1.4	19.0	112 8 18.1 }	+ 17 1 13.0			
61	. .	. .	. .	+ 1 14.6	18.3	111 36 34.4 }				
62										
63	72.0	70.2	. .	— 2 2.5	53.7	133 58 50.7	— 5 5 11.5	+ 97.0		
64	. .	. .	. .	+ 1 49.2	25.5	114 32 15.1	+ 14 21 24.1	+ 91.6		
65	. .	. .	. .	— 3 26.0	+ 48.3	131 17 21.1	— 2 23 41.9			
66	72.0	69.6	. .	— 4.8	— 1 12.6	37 28 42.8	+ 88 35 3.5	— 75.2		All the readings at wire V.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
May 7	1	B. A. C. 4536	7.0	1	V.	90 59 60.5	60.1	59.1	54.4	57.7	64.1	59.32	28.092	.106	
	2	*o* Virginis		1	V.	124 39 60.4	59.7	58.5	54.1	56.2	62.9	58.63	30.692	.694	
	3	*κ* Virginis		1	V.	138 29 60.9	60.1	57.1	54.5	56.8	60.6	58.33	27.646	.650	29.900
	4	*λ* Virginis		1	V.	141 34 60.9	59.0	60.0	54.8	56.1	61.3	58.68	25.435	.450	
	5	*ρ* Bootis		1	V.	97 54 61.1	60.5	60.4	55.3	58.5	64.5	60.05	29.028	.038	
	6	108 Virginis, (4869)		1	V.	127 34 61.0	59.1	57.4	53.3	56.0	61.2	58.00	28.889	.892	
	7	B. A. C. 4937		1	V.	78 39 61.0	61.0	63.1	56.1	59.8	65.9	61.15	24.630	.634	29.896
9	8	Sun N. L.		4	I–IX.	111 4 61.4	62.0	58.8	56.3	56.5	63.0	59.67	31.541	.537	29.832
	9	Nadir 10h. 46m.		3		269 59 61.6	56.5	58.3	53.2	55.7	62.6	57.98	29.842	.845	
16	10	B. A. C. 8314, S. P.	6.0:	4	IV–I.	22 34 60.5	62.0	64.6	61.4	58.3	61.5	61.38	29.851	.920	29.929
	11	Moon N. L.		5	I–IX.	133 49 60.3	60.8	61.1	57.5	56.8	61.2	59.62	28.667	.678	
	12	Anon. 12h. 17m. 0s.	8.0	5	III–VII.	154 4 59.9	59.7	61.7	56.7	54.7	58.5	58.53	24.668	.674	
	13	Lacaille 5143	7.0	1	V.	" " "	"	"	"	"	"	"	27.561	.569	
	14	Saturn S. L.		3	I–IX.	131 9 60.9	60.5	60.0	56.6	54.9	59.6	58.75	34.076	.090	29.937
	15	Saturn N. L.		2	III, VII.	" " "	"	"	"	"	"	"	34.620	.626	
	16	O. Arg. S. 12615	8.3	1	V.	153 54 61.9	61.1	62.8	58.5	55.5	59.6	59.90	27.285	.304	
	17	Lacaille 5457	6.5	5	III–VII.	164 29 61.9	61.2	63.2	60.0	57.0	61.2	60.75	30.535	.550	
	18	Anon. 13h. 16m. 50s.	7.3	5	III–VII.	153 14 61.5	60.1	63.0	59.0	56.1	60.5	60.03	25.572	.582	29.935
	19	Anon. 13h. 23m. 40s.	7.8	5	III–VII.	153 49 61.5	60.4	62.5	58.5	55.6	59.1	59.60	31.277	.302	
	20	Nadir 13h. 36m.		6		269 59 61.0	60.0	61.5	58.7	57.5	61.0	59.95*d*	29.865	.874	
	21	50 Cassiopeæ, S. P.	3.8	5	VII–III.	20 39 60.5	62.1	64.6	62.4	58.5	60.6	61.45	26.583	.613	29.932
	22	Lacaille 5838	7.5	1	V.	158 19 61.5	62.2	63.6	60.6	55.4	59.3	60.43	33.455	.469	
	23	4 Ursæ Minoris	4.8	3	1–5.	50 44 61.1	63.2	66.0	62.8	60.4	65.5	63.17	33.378	.395	
	24	O. Arg. S. 13711	6.8	1	V.	158 59 61.7	62.2	63.9	61.4	56.3	59.6	60.85	33.508	.519	
	25	Lacaille 6042	7.7	5	III–VII.	154 34 61.5	61.3	62.4	58.5	56.0	59.8	59.92	35.681	.688	29.924
	26	Lacaille 6109	8.0	2	VIII, IX.	160 44 62.1	61.9	65.1	59.6	56.2	59.8	60.78	34.383	.446	
	27	Lacaille 6162	6.2	1	V.	157 29 62.4	62.1	63.6	61.5	57.2	60.5	61.22	33.969	.976	
	28	O. Arg. S. 14257	8.5	5	III–VII.	157 49 61.2	61.6	62.9	60.5	56.1	59.2	60.25	29.809	.814	
	29	O. Arg. S. 14278	7.0	2	VII, IX.	" " "	"	"	"	"	"	"	45.284	.338	
	30	2 Lupi	5.0	3	VII–IX.	158 29 61.7	61.8	63.8	61.9	56.4	59.0	60.77	29.529	.575	
	31	Jupiter S. L.		4	II–VIII.	146 4 61.6	61.9	62.0	59.2	56.4	60.8	60.32	28.566	.579	29.919
	32	Jupiter N. L.		3	III–VII.	" " "	"	"	"	"	"	"	29.959	.969	
	33	Anon. 15h. 31m. 18s.	9.0	1	V.	167 9 61.9	63.1	65.8	63.9	57.6	60.6	62.15	38.528	.538	
	34	Thetis	9.7	3	II, V, IX.	138 14 60.5	61.4	60.8	58.5	56.0	58.8	59.33	25.009	.022	
17	35	*γ* Cephei, S. P.		1	1.	25 49 59.7	64.7	65.0	61.6	58.1	61.5	61.77	33.990	.998	29.819
	36	*β* Cassiopeæ, S. P.		1	V.	7 24 55.4	58.2	58.8	57.5	53.8	54.8	56.42	31.023	.033	
	37	Nadir 12h. 35m.		4		269 59 54.6	58.0	55.3	52.5	52.9	55.9	54.87	29.669	.677	
	38	Moon N. L.		5	I–IX.	138 4 60.0	62.7	60.9	58.0	56.6	60.3	59.75	29.331	.346	
	39	A Cassiopeæ, S. P.		1	V.	18 29 60.9	62.5	65.3	64.0	59.4	60.7	62.13	29.669	.672	29.816
	40	Nadir		3		269 59 60.7	64.0	62.1	60.2	58.3	62.5	61.35	29.889	.895	
	41	5 Ursæ Minoris		1	V.	52 34 60.7	65.1	66.0	64.6	60.2	65.9	63.75	27.367	.385	
	42	*β* Ursæ Minoris		1	V.	54 9 59.8	63.7	64.3	62.4	59.1	63.0	62.05	26.675	.678	
	43	Jupiter S. L.		3	I–IX.	146 4 60.1	63.0	61.8	59.9	57.0	60.4	60.37	32.041	.062	29.792
	44	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	33.408	.428	
18	45	Sun S. L.		2	VIII, IX.	109 24 60.5	62.3	58.9	56.6	57.0	60.1	59.23	27.466	.451	29.784
	46	Moon N. L.		4	I–IX.	141 59 60.8	60.1	61.0	56.3	55.9	60.0	59.02	26.830	.882	29.829
	47	Nadir 14h.		6		269 59 60.5	58.0	59.5	56.5	55.9	61.5	58.65	29.851	.855	
19	48	Sun S. L.		3	II–IV.	109 14 60.4	63.3	60.4	57.6	57.2	61.4	60.05	32.773	.764	29.906
	49	*γ* Cephei, S. P.		5	VII–III.	25 49 59.7	63.3	63.1	60.1	57.8	61.2	60.87	33.899	.935	29.916
	50	Nadir 12h. 10m.		3		269 59 59.4	60.9	59.4	56.5	57.7	61.3	59.20	29.812	.814	
	51	Saturn S. L.		3	I–IX.	131 4 57.9	61.0	57.6	55.0	54.5	57.7	57.28	28.972	.980	29.950
	52	Saturn N. L.		2	III, VII.	" " "	"	"	"	"	"	"	29.502	.513	
	53	*ε* Cassiopeæ, S. P.		5	VII–III.	11 59 60.1	62.9	64.4	62.3	58.5	60.8	61.50	34.137	.167	
	54	*d* Bootis		1	V.	103 9 61.4	65.0	64.4	61.6	59.4	64.2	62.67	31.303	.322	29.960
	55	Moon N. L.		5	I–IX.	145 24 61.0	63.5	61.2	57.8	56.8	61.9	60.37	29.970	.986	
	56	Nadir 14h. 50m.		3		269 59 60.3	63.0	60.6	59.3	57.6	62.6	60.57	29.899	.903	
	57	Jupiter N. L.		3	I–IX.	145 59 59.5	62.5	60.6	57.9	55.7	60.0	59.37	30.852	.864	29.950
	58	Jupiter S. L.		2	III, VII.	" " "	"	"	"	"	"	"	29.502	.517	
20	59	Sun N. L.		4	VI–IX.	108 29 60.4	62.4	60.8	58.5	57.2	62.4	60.28	31.049	.057	29.982
	60	*γ* Cephei, S. P.		5	VII–III.	25 49 60.1	60.9	64.2	58.8	57.7	60.2	60.32	33.911	.947	29.898
	61	B. A. C. 8314, S. P.		3	VI–IV.	22 34 60.5	61.1	63.4	58.7	58.3	61.1	60.52	29.856	.868	
	62	Lacaille 5257		3	III–VII.	154 24 61.0	58.9	60.9	55.1	55.6	59.8	58.55	29.090	.108	29.904
	63	Saturn S. L.		5	I–IX.	131 4 61.9	60.1	59.8	55.9	55.5	60.5	58.95	30.351	.370	
	64	Saturn N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	30.882	.886	
	65	Lacaille 5348		1	VIII.	158 9 62.1	60.4	63.4	57.9	55.5	59.7	59.83	34.700	.737	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	29.985	+ 58.9	+ 1.0	91 0 59.2	+ 37 52 40.0	+ 81.5	Ha.	
2	- -	- -	- -	— 22.2	38.6	124 40 15.0	+ 4 13 24.2	86.3		
3	71.5	67.7	- -	+ 1 13.2	1 3.3	138 32 14.8	— 9 38 35.6	81.7		
4	- -	- -	- -	2 22.1	1 10.6	141 38 31.3	— 12 44 52.1	80.4		
5	- -	- -	- -	29.7	7.8	97 55 37.5	+ 30 58 1.7	72.5		
6	- -	- -	- -	34.2	+ 43.2	127 36 15.4	1 17 23.8	72.2		
7	71.5	66.7	- -	+ 2 47.7	— 11.2	78 42 37.6	50 11 1.6	+ 64.7		Night bad, very thick and hazy, and stars quite unsteady.
8	74.0	81.0	29.845	— 51.0	+ 16 10.2	111 20 18.8	17 33 20.4			Wires I, II, VIII, IX. Clouds, III–VII.
9										
10	68.5	65.7	29.874	— 1.4	— 2 14.5	22 32 45.4	+ 73 39 6.1	— 74.6	N.	
11	- -	- -	- -	+ 37.5	— 22 1.8	133 28 35.3	— 4 34 56.1			
12	- -	- -	- -	2 42.9	+ 1 55.7	154 9 37.1	25 15 57.9	+ 102.8		
13	- -	65.0	- -	+ 1 12.2	1 55.6	154 8 6.3	25 14 27.1	102.7		
14	68.0	64.3	- -	— 2 12.1	48.6	131 8 35.2	2 14 47.6			
15	- -	- -	- -	— 2 28.9	48.6	131 8 18.4				
16	- -	- -	- -	+ 1 20.5	1 55.0	153 58 15.4	25 4 36.2	98.2		
17	- -	- -	- -	— 21.2	3 20.7	164 33 0.2	35 39 21.0	98.0		
18	67.5	63.4	- -	+ 2 14.5	1 51.9	153 19 6.4	24 25 27.2	94.6		
19	- -	- -	- -	— 44.7	+ 1 54.6	153 51 9.5	— 24 57 30.3	+ 93.4		
20										
21	67.0	62.2	- -	+ 1 42.2	— 2 28.9	20 39 14.7	+ 71 45 35.5	— 67.7		
22	- -	- -	- -	— 1 52.7	+ 2 21.5	158 20 29.2	— 29 26 50.0	+ 84.9		
23	- -	- -	- -	1 50.3	— 1 46.4	50 42 26.4	+ 78 11 12.8	67.0		
24	- -	- -	- -	1 54.2	+ 2 26.5	159 0 33.1	— 30 6 53.9	78.6		
25	66.3	61.5	- -	3 2.2	1 58.6	154 33 56.3	25 40 17.1	76.0		
26	- -	- -	- -	2 23.3	2 40.7	160 45 18.1	31 51 38.9	73.5		
27	- -	- -	- -	— 2 5.4	2 15.9	157 30 11.7	28 36 32.5	70.9		
28	- -	- -	- -	+ 1.9	2 18.5	157 52 20.6	28 58 41.4	67.5		
29	- -	- -	- -	— 8 4.6	2 17.6	157 44 13.2	28 50 34.0	67.0		
30	- -	60.8	- -	+ 9.4	2 23.2	158 32 33.3	29 38 54.1	63.8		
31	65.3	60.7	- -	+ 40.6	1 22.8	146 7 3.7	17 13 2.7			
32	- -	- -	- -	— 3.0	1 22.8	146 6 20.1				
33	- -	- -	- -	— 4 31.5	4 2.8	167 9 33.4	38 15 54.2	+ 55.7		
34	- -	- -	- -	+ 2 32.0	+ 1 3.7	138 18 35.0	— 9 24 55.8			
35	68.7	65.8	29.846	— 2 10.1	— 1 55.5	25 45 56.1	+ 76 52 16.9	— 73.9	D.	
36	- -	- -	- -	— 37.2	6 46.1	7 17 33.1	+ 58 23 53.9	75.6		
37										
38	- -	- -	- -	+ 15.7	24 59.9	137 40 15.5	— 8 46 36.3			
39	67.0	61.8	- -	5.5	2 47.2	18 27 20.4	+ 69 33 41.2	— 71.2		
40										
41	- -	- -	- -	1 17.1	43.3	52 35 37.5	76 18 1.7	+ 63.5		
42	- -	- -	- -	+ 1 39.3	— 40.9	54 11 0.4	+ 74 42 38.8	+ 59.2		
43	65.0	59.8	- -	— 1 9.4	+ 1 22.5	146 5 13.4	— 17 11 12.8			
44	- -	- -	- -	— 1 52.2	+ 1 22.5	146 4 30.6				
45	69.5	76.7	29.898	+ 1 16.7	— 15 33.8	109 10 42.1	+ 19 42 57.1		N.	Hazy.
46	69.0	62.2	- -	+ 1 34.5	27 38.8	141 33 54.7	— 12 40 15.5			Alternate; missed wire III.
47										
48	69.0	73.7	29.862	— 1 30.9	15 33.7	108 57 55.4	+ 19 55 43.8			
49	70.0	66.5	- -	— 2 7.6	— 1 55.7	25 45 57.5	+ 76 52 18.3	— 73.7	D.	
50										
51	69.0	65.5	- -	+ 27.6	+ 48.5	131 6 13.3	— 2 12 25.8			
52	- -	- -	- -	+ 10.9	+ 48.5	131 5 56.6				
53	- -	- -	- -	— 2 14.9	— 4 20.1	11 53 26.5	+ 62 59 47.3	— 68.2		
54	68.0	63.0	- -	45.8	+ 13.2	103 9 30.0	+ 25 44 9.2	+ 75.4		
55	- -	- -	- -	3.9	— 29 50.6	144 55 5.8	— 16 1 26.6			
56										
57	66.0	60.7	- -	— 31.4	+ 1 22.3	146 0 50.2	— 17 7 32.1			
58	- -	- -	- -	+ 10.8	1 22.3	146 1 32.4				
59	68.3	76.6	29.896	— 36.4	+ 16 5.9	108 45 29.7	+ 20 8 9.5		N.	
60	70.0	68.2	- -	— 2 6.9	— 1 55.2	25 45 58.2	76 52 19.0	— 73.7		
61	- -	- -	- -	+ 0.9	— 2 13.9	22 32 47.5	+ 73 39 8.3	— 74.2		
62	69.0	65.0	- -	+ 24.7	+ 1 57.1	154 27 20.3	— 25 33 41.1	+ 100.7		
63	- -	- -	- -	— 14.8	48.5	131 5 32.6	2 11 45.3			
64	- -	- -	- -	31.0	48.5	131 5 16.4				
65	- -	- -	- -	— 26.3	+ 2 20.5	158 11 54.0	— 29 18 14.8	+ 99.8		Cloudy; extremely faint.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ″ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
May 20	1	Nadir 13h. 0m.		4		269 59 61.6	59.5	61.2	57.4	58.1	62.3	60.02*d*	29.888	.892	
	2	*α* Virginis		3	II–IV.	139 19 62.9	60.5	61.0	57.1	57.6	60.3	59.90	30.196	.204	
	3	*α* Virginis, (Ref.)		2	VII, IX.	220 39 61.6	58.0	63.9	57.9	57.9	63.0	60.38	29.610	.629	29.904
	4	Lacaille 5773		5	III–VII.	154 9 61.5	60.9	63.4	57.0	56.7	60.1	59.93	26.137	.156	
	5	*α* Draconis		2	IV, V.	63 49 62.1	61.1	64.7	59.9	59.1	64.5	61.90	25.142	.149	
	6	*α* Draconis, (Ref.)		4	VI–IX.	296 4 62.2	59.9	62.1	55.6	58.3	60.5	59.77	24.986	.062	
	7	*α* Bootis, (Ref.)		3	II–IV.	250 59 62.9	61.5	65.4	59.5	61.6	66.0	62.82	29.867	.863	
	8	*α* Bootis		4	VI–IX.	108 59 61.7	62.0	61.0	57.1	57.4	62.0	60.20	30.006	.022	29.904
	9	O. Arg. S. 13629		1	IV.	156 9 61.4	61.2	62.2	57.8	57.1	60.0	59.95	31.445	.453	
	10	O. Arg. S. 13647		5	III–VII.	" " "	"	"	"	"	"	"	29.441	.459	
	11	5 Ursæ Minoris, (Ref.)		3	VII–IX.	307 24 61.5	61.1	61.9	54.6	56.5	61.0	59.43	32.231	.394	
	12	α^2 Libræ		4	I–IV.	144 19 60.6	60.4	60.9	56.6	56.6	59.4	59.08	28.004	.004	
	13	*β* Ursæ Minoris, (Ref.)		3	IV–V.	305 49 60.5	58.8	59.5	54.0	55.0	59.0	57.80	32.930	.937	
	14	*β* Ursæ Minoris		3	VI–VII.	54 9 61.0	60.6	63.9	59.3	58.8	63.0	61.10	26.805	.782	
	15	Jupiter S. L.		5	I–IX.	145 49 61.8	62.3	62.5	59.0	58.4	61.7	60.95	32.977	.992	29.992
	16	Jupiter N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	34.317	.341	
	17	Moon N. L.		4	I–IV.	147 59 62.0	60.2	62.1	58.2	55.8	60.0	58.05	30.978	.879	
	18	B. A. C. 5220		1	VIII.	152 14 61.1	60.8	62.5	58.9	57.5	60.8	60.27	26.770	.803	29.898
	19	Nadir 16h.		6		269 59 61.6	59.2	61.8	58.5	57.5	61.6	60.03	29.897	.902	
	20	Venus, centre		5	I–IX.	113 39 61.7	65.0	63.2	60.4	59.0	57.0	61.05	32.798	.792	29.860
21	21	*α* Bootis		5	I–IX.	108 59 60.0	62.6	57.9	54.7	57.2	62.5	59.15	29.770	.762	29.773
	22	Nadir 15h.		7		269 59 60.0	59.3	58.6	55.0	58.0	61.8	58.78	29.839	.846	
	23	Jupiter S. L.		3	I–IX.	145 59 61.0	60.9	60.9	55.7	59.0	62.0	59.92	36.229	.257	29.757
	24	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	37.527	.541	
23	25	Sun S. L.		1	V.	108 24 60.4	61.6	60.6	57.2	55.5	61.6	59.48	28.364	.382	30.061
	26	4 Draconis		3	IV–V.	50 29 60.2	58.9	62.4	57.6	58.1	64.2	60.23	25.955	.948	
	27	4 Draconis, (Ref.)		3	VI–IX.	309 29 60.8	57.9	59.9	51.3	55.0	59.4	57.38	33.544	.679	29.928
	28	Nadir 12h. 30m.		2		269 59 61.4	59.0	59.8	55.7	57.3	62.2	59.23	29.783	.794	
	29	Nadir		3		270 4 62.0	61.0	61.4	57.4	59.4	64.5	60.95	39.498	.508	
	30	*α* Virginis		5	I–IX.	139 19 62.0	59.5	60.0	55.1	56.7	59.0	58.72	30.131	.150	29.944
	31	Venus, centre		2	V, IX.	112 29 61.3	64.1	61.1	58.2	59.3	64.3	61.38	27.194	.204	29.976
24	32	Sun S. L.		2	I, III.	108 14 61.9	63.3	61.0	55.9	58.9	63.0	60.67	30.365	.363	
	33	Sun N. L.		2	VII, IX.	107 44 60.1	61.5	60.0	54.3	58.0	62.0	59.32	33.332	.345	29.880
27	34	Sun N. L.		4	I–IV.	107 9 60.0	59.6	60.8	54.4	55.7	58.9	58.23	25.460	.466	
	35	Sun S. L.		4	VI–IX.	107 44 62.0	61.4	61.2	56.0	56.9	61.2	59.78	32.238	.239	29.714
	36	Nadir		3		269 59 62.5	58.5	59.9	57.0	57.1	62.3	59.55	29.866	.876	
	37	Anon. 14h. 14m. 46s.		1	V.	164 9 61.8	57.5	61.1	55.9	54.2	58.7	58.20	26.005	.017	29.826
	38	B. A. C. 4842		5	III–VII.	165 59 61.6	59.0	61.5	58.1	55.5	60.2	59.32	24.929	.943	
	39	B. A. C. 4888		1	VIII.	152 29 61.1	57.0	60.5	56.1	53.9	58.4	57.83	24.156	.186	
	40	B. A. C. 4982	5.0	5	1–5.	45 49 61.5	60.0	65.0	60.5	57.8	61.7	61.08	29.207	.223	29.822
	41	2 Lupi	3.8	1	V.	158 29 62.2	59.1	63.3	58.8	54.3	58.9	59.43	29.265	.282	
	42	Jupiter S. L.		3	I–IX.	145 44 62.4	60.2	61.7	56.5	56.0	61.1	59.65	27.881	.897	
	43	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	29.265	.286	
	44	Nadir 15h. 40m.		3		269 59 61.6	58.0	60.6	57.1	56.1	60.8	59.03	29.999	.010	
	45	Venus, centre		3	IV–VI.	111 9 59.9	63.0	60.0	58.4	57.6	61.0	59.98	34.687	.689	29.945
28	46	Sun S. L.		2	I, IV.	107 34 61.8	65.1	63.3	58.9	58.7	63.2	61.83	31.575	.574	
	47	Sun N. L.		1	IX.	107 4 63.5	65.8	63.5	60.0	61.5	63.5	62.97	34.793	.766	29.946
	48	Nadir		6		269 54 60.4	57.0	59.5	55.0	56.1	60.0	58.00	20.426	.436	
	49	Nadir		6		269 54 60.2	57.8	59.0	55.1	56.0	60.0	58.02	20.427	.438	
	50	Nadir		6		269 59 61.6	59.0	60.4	57.3	57.8	61.5	59.60	30.048	.060	
	51	Nadir		6		269 59 61.4	60.1	59.5	57.1	57.1	61.1	59.38	30.050	.062	
	52	Nadir		6		270 4 60.8	59.9	60.6	57.7	58.2	62.2	59.90	39.636	.642	
	53	Nadir		6		270 4 61.0	60.0	60.2	58.1	58.3	62.0	59.93	39.635	.642	
	54	Nadir		3		269 54 60.2	58.6	59.2	56.0	56.8	60.5	58.55	20.444	.455	
29	55	Venus		5	III–VII.	110 29 60.9	64.9	61.4	59.3	60.1	60.8	61.23	33.267	.281	30.021
30	56	Sun N. L.		4	I–IV.	106 44 60.2	66.6	63.0	60.9	60.7	62.3	62.28	31.019	.028	30.020
	57	Sun S. L.		4	VI–IX.	107 14 58.8	64.5	61.0	58.5	59.6	59.9	60.38	27.893	.883	
	58	Nadir 4h. 40m.		4		269 59 58.4	59.8	57.9	57.4	57.0	60.0	58.42	30.012	.022	
	59	O. Arg. S. 12390		1	V.	157 54 62.2	63.4	62.0	60.0	58.9	61.7	61.37	32.005	.017	29.990
	60	Anon. 12h. 50m. 7s.	8.0:	1	V.	161 14 61.2	62.1	62.9	59.5	56.7	60.9	60.55	27.296	.312	
	61	Lacaille 5405		3	IV–VI.	158 34 61.5	64.3	63.3	61.4	58.0	61.3	61.63	31.927	.937	
	62	Polaris, S. P., (Ref.)		3	5.	322 29 60.5	61.4	62.3	56.5	58.0	59.5	59.70	29.640	.635	30.000
	63	*α* Virginis		5	I–IX.	139 19 60.8	62.7	59.0	58.6	58.0	59.4	59.75	30.302	.322	
	64	*ζ* Virginis		2	III, IV.	128 44 59.5	61.9	57.6	58.2	57.4	60.8	59.23	26.043	.057	
	65	*ζ* Virginis, (Ref.)		4	VI–IX.	231 9 58.6	58.0	60.4	58.0	56.7	62.9	59.10	24.445	.456	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1									N.	
2	. .	. .	29.896	— 9.8	+ 1 5.7	139 20 55.8	— 10 27 16.6	+ 91.7		
3	68.3	63.1	. .	+ 8.4	— 1 5.7	220 39 3.0	10 27 17.7			
4	. .	. .	. .	1 57.2	+ 1 56.6	154 13 53.7	— 25 20 14.5	87.7		
5	. .	. .	. .	2 28.7	— 27.8	63 52 2.8	+ 65 1 36.4	68.9		
6	. .	. .	. .	2 31.4	+ 27.8	296 7 58.9	65 1 38.2			
7	. .	. .	. .	+ 1.0	— 19.5	250 59 44.3	19 53 23.6	75.2		
8	67.7	62.1	. .	— 3.9	+ 19.5	109 0 15.8	+ 19 53 23.4			
9	. .	. .	. .	— 48.8	2 7.5	156 11 18.6	— 27 17 39.4	80.1		Faint.
10	. .	. .	. .	+ 13.7	2 7.5	156 12 21.1	— 27 18 41.9	79.7		
11	. .	. .	. .	— 1 18.3	43.3	307 24 24.4	+ 76 18 3.7	62.8		
12	. .	. .	. .	+ 59.3	1 18.9	144 22 17.2	— 15 28 38.0	71.7		
13	. .	. .	. .	— 1 35.3	+ 40.9	305 49 3.4	+ 74 42 42.7	58.2		
14	. .	. .	. .	+ 1 37.6	— 40.9	54 10 57.8	+ 74 42 41.4			
15	66.5	61.6	. .	— 1 37.0	+ 1 22.1	145 59 46.0	— 17 5 45.6			Barometer perhaps 29.892.
16	. .	. .	. .	2 19.3	+ 1 22.1	145 59 3.7				
17	. .	. .	. .	— 30.8	— 31 30.2	147 27 57.0	18 34 17.8			
18	66.3	61.5	. .	+ 1 36.9	+ 1 47.5	152 18 24.6	— 23 24 45.4	52.4		
19										
20	69.5	81.0	29.885	— 1 31.1	21.8	113 38 51.7	+ 15 14 47.5		D.	
										[of $-0r.250 = -7''.8$.
21	72.7	71.2	. .	+ 3.8	19.1	109 0 22.0	+ 19 53 17.2	75.0		Perhaps read wrong index, making an error
22										Image unsteady.
23	. .	70.1	. .	— 3 19.7	1 20.3	145 58 0.5	— 17 4 1.2			Disk indistinct and tremulous.
24	. .	. .	. .	— 3 59.9	+ 1 20.3	145 57 20.3				
25	70.7	76.5	29.819	+ 45.0	— 15 33.7	108 10 10.7	+ 20 43 28.5		N.	
26	. .	. .	. .	+ 2 1.3	— 45.9	50 31 15.6	78 22 23.6	75.8		
27	72.5	70.6	. .	— 2 0.9	+ 45.9	309 28 42.3	+ 78 22 21.5			Missed wire VIII.
28										On looking at the image it was found to be
29										formed about $\frac{1}{14}$ inch within the wires.
30	72.0	69.3	. .	— 10.4	1 5.0	139 20 53.3	— 10 27 14.1	91.6		
31	78.0	81.6	. .	+ 1 21.9	20.7	112 31 43.9	+ 16 21 55.3		D.	
32	. .	. .	. .	— 17.0	15.3	108 14 58.9	20 54 28.0			May 24. Eyepiece taken out, new vertical
33	74.5	83.2	. .	— 1 50.5	14.8	107 43 23.6				wires put in, and micrometer plate-guides tightened.
34	. .	. .	29.890	+ 2 18.6	14.5	107 12 31.3	+ 21 25 21.5		N.	May 26. Adjusted focus.
35	73.3	75.7	. .	— 1 10.5	15.0	107 44 4.2				No reliable inclination.
36										
37	71.6	65.1	30.041	+ 2 6.1	3 15.6	164 15 19.9	— 35 21 40.7	83.2		Before this observation adjusted eyepiece for
38	. .	. .	. .	2 39.7	3 41.8	166 6 20.8	37 12 41.6	77.7		horizontality of wires.
39	. .	. .	. .	3 3.4	+ 1 47.6	152 34 48.8	— 23 41 9.6	73.6		
40	70.7	65.0	. .	25.6	— 54.5	45 49 32.1	+ 83 4 7.1	53.8		
41	. .	. .	. .	23.8	+ 2 21.6	158 32 44.8	— 29 39 5.6	64.7		Micrometer reading seems wrong by about
42	. .	. .	. .	1 7.2	1 20.7	145 47 27.5	— 16 53 26.5			0r.300.
43	. .	. .	. .	+ 23.7	1 20.7	145 46 44.0				
44										
45	77.5	75.5	30.073	— 2 24.6	19.5	111 7 54.8	+ 17 45 44.4		D.	
46	. .	. .	. .	47.0	14.9	107 34 29.7	21 34 59.2			
47	79.0	77.5	. .	2 27.0	14.4	107 2 50.3				
48									N.	Observations for value of one revolution of
49									Ha.	micrometer.
50									N.	Resulting value, 31″.342.
51									Ha.	
52									N.	
53									Ha.	
54									N.	May 29. Examined level and found west
55	70.4	77.8	. .	1 40.5	18.8	110 28 39.5	18 24 59.7			end too low. Adjusted. Found wires $1\frac{1}{2}'$ too far west. Adjusted collimation.
56	72.0	79.7	. .	— 30.0	14.1	106 44 46.3	+ 21 53 4.3			
57	. .	. .	. .	+ 1 8.6	14.6	107 16 23.5				
58										
59	73.0	70.8	. .	— 1 0.9	2 16.6	157 56 17.0	— 29 2 37.8	102.0		Faint.
60	. .	. .	. .	+ 1 26.5	2 43.2	161 19 10.2	32 25 31.0	101.3		
61	. .	. .	. .	— 58.4	2 21.4	158 36 24.6	— 29 42 45.4	+ 99.2		
62	72.6	70.0	. .	+ 13.7	1 12.8	322 31 26.2	+ 88 34 54.5	— 70.7		
63	. .	. .	. .	— 7.8	1 5.1	139 20 57.0	— 10 27 17.8	+ 91.4		
64	. .	. .	. .	+ 2 5.8	+ 45.0	128 47 50.0	+ 0 5 49.2	+ 86.9		
65	. .	. .	. .	+ 2 56.0	— 45.0	231 12 10.1	+ 0 5 49.3			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
May 30	1	η Ursæ Majoris, (Ref.)	. .	4	I–IV.	281 4 61.6	64.2	62.0	58.1	59.9	62.9	61.45	28.639	.671	. .
	2	η Ursæ Majoris . .	. .	4	VI–IX.	78 54 61.4	65.2	65.6	62.8	62.7	66.9	64.10	31.607	.582	. .
	3	Lacaille 5774 . .	7.5	1	V.	157 59 60.6	62.4	61.7	59.5	57.0	59.0	60.03	37.136	.152	. .
	4	α Draconis	. .	4	I–IV.	63 54 60.1	62.6	63.4	61.8	59.8	63.5	61.87	34.988	.947	. .
	5	4 Ursæ Minoris . .	. .	3	III½–IV½.	50 44 60.6	65.3	64.4	63.0	62.3	66.4	63.67	33.687	.670	. .
	6	4 Ursæ Minoris, (Ref.)	. .	3	V–VI.	309 14 60.4	61.4	61.0	54.9	58.0	60.0	59.28	26.398	.422	30.010
	7	ι Cassiopeæ, S. P. .	. .	4	IV–I.	15 44 60.2	62.5	63.4	61.4	57.7	60.1	60.88	31.676	.735	. .
	8	5 Ursæ Minoris, (Ref.)	. .	3	III–V.	307 24 61.0	62.9	61.4	56.5	58.5	60.5	60.13	32.349	.390	. .
	9	5 Ursæ Minoris . .	. .	3	VI–VII.	52 34 61.6	63.0	64.1	63.5	60.7	65.6	63.08	27.719	.682	. .
	10	O. Arg. S. 14046 .	8.5	5	III–VII.	157 49 60.0	62.1	61.2	59.2	56.7	60.0	59.87	29.608	.616	. .
	11	20 Libræ	4.0	5	III–VII.	153 34 60.2	61.6	60.5	58.9	56.0	59.7	59.48	26.848	.856	30.005
	12	O. Arg. S. 14289 .	7.5	5	III–VII.	154 49 60.3	63.0	61.3	58.8	58.0	60.4	60.30	29.587	.596	. .
	13	2 Lupi	4.5	1	V.	158 29 61.5	63.2	63.5	61.2	57.4	60.1	62.82	29.696	.699	. .
	14	Jupiter S. L. . .	. .	3	I–IX.	145 39 61.6	63.6	62.1	59.2	59.1	61.6	61.20	27.988	.009	. .
	15	Jupiter N. L. . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	29.342	.361	. .
	16	Thetis	. .	1	V.	137 59 60.9	64.5	61.5	59.7	58.9	60.9	61.07	26.642	.645	. .
	17	Nadir 15h. 45m. . .	. .	6	. .	269 59 60.5	62.5	60.9	60.0	59.0	62.4	60.88*d*	30.086	.100	. .
	18	δ Scorpii	. .	4	VI–IX.	151 4 60.9	63.8	63.8	61.1	57.9	60.6	61.35	28.280	.307	. .
	19	α Lyræ	. .	5	III–VII.	90 14 60.4	66.8	63.1	62.8	60.0	63.2	62.72	31.844	.843	. .
	20	Venus	. .	5	I–IX.	110 9 59.1	67.7	60.4	61.4	59.7	62.6	61.82	31.170	.179	30.085
31	21	α Canis Majoris . .	. .	5	I–IX.	145 24 58.7	64.0	57.3	61.5	59.0	62.2	60.45	31.023	.043	30.050
	22	Nadir 12h. 35m. . .	. .	5	. .	269 59 57.0	58.7	55.4	55.0	56.6	62.3	57.50	30.002	.012	. .
	23	Saturn S. L. . . .	. .	3	I–IX.	130 59 57.7	62.3	56.9	55.5	56.5	61.5	58.40	31.071	.087	30.005
	24	Saturn N. L. . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	31.603	.607	. .
	25	Anon. 13h. 31m. 14s.	. .	1	V.	155 24 53.0	57.9	54.1	52.0	53.1	55.0	54.18	28.005	.017	. .
	26	α Bootis, (Ref.) . .	. .	5	I–IX.	249 59 60.0	61.8	61.7	61.0	62.6	66.6	62.28	29.984	.003	30.020
	27	Lacaille 6035 . .	. .	3	II–VIII.	155 24 61.1	64.3	61.7	59.4	59.5	61.5	61.25	31.219	.223	. .
	28	α^2 Libræ, (Ref.) . .	. .	1	V.	215 39 59.2	62.5	63.2	61.8	58.2	66.2	61.85	32.073	.088	30.010
	29	Jupiter S. L. . .	. .	3	I–IX.	145 39 58.4	62.3	58.6	56.5	56.9	61.5	59.03	31.070	.075	. .
	30	Jupiter N. L. . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	32.370	.380	. .
	31	Nadir 15h. 45m. . .	. .	3	. .	269 59 58.1	62.9	58.6	61.0	59.0	63.4	60.50	30.083	.093	. .
	32	α Lyræ	. .	5	III–VII.	90 14 58.6	62.6	59.1	58.0	57.8	61.2	59.55	31.754	.757	. .
June 1	33	Sun S. L. . . .	. .	4	I–IV.	106 59 60.3	66.1	61.8	60.4	61.4	63.6	62.27	30.840	.842	. .
	34	Sun N. L. . . .	. .	4	VI–IX.	106 29 59.3	67.1	60.7	60.2	61.9	63.1	62.05	33.827	.814	30.013
	35	Nadir 15h. 30m. . .	. .	3	. .	269 59 60.5	60.1	59.1	56.0	58.9	62.3	59.48	29.979	.989	. .
	36	Jupiter S. L. . .	. .	2	V, VII.	145 34 60.4	61.2	59.7	55.6	57.0	61.1	59.17	24.538	.546	29.912
	37	Jupiter N. L. . .	. .	2	VI, VIII.	" " "	"	"	"	"	"	"	25.898	.909	. .
	38	Thetis	. .	1	V.	137 59 61.0	62.1	59.0	55.8	57.3	60.4	59.27	26.250	.267	. .
	39	κ Libræ	. .	1	V.	148 4 61.2	59.7	60.3	57.0	56.0	59.3	58.92	27.361	.375	. .
	40	B. A. C. 1211, S. P.	. .	3	5–1.	29 14 61.0	62.2	63.1	62.3	60.9	63.3	62.13	31.608	.613	. .
	41	c^2 Scorpii	. .	5	III–VII.	156 24 61.1	61.9	59.8	58.2	56.4	61.0	59.73	28.443	.450	. .
	42	Lacaille 6765 . .	. .	1	V.	163 19 62.1	63.1	62.0	59.4	58.0	61.8	61.07	30.948	.957	. .
	43	Lacaille 6774 . .	. .	1	V.	" " "	"	"	"	"	"	"	20.046	.060	. .
	44	Lacaille 6806 . .	. .	1	V.	" " "	"	"	"	"	"	"	17.422	.434	. .
	45	η Ursæ Minoris . .	. .	5	III–VII.	52 49 62.0	62.6	63.7	61.5	60.0	65.2	62.50	29.585	.560	29.915
3	46	Polaris, S. P., (Ref.)	. .	3	V–1.	322 29 59.3	60.9	60.2	56.7	55.7	56.4	58.20	29.558	.561	30.074
	47	h Virginis	6.3	1	V.	138 19 60.5	62.9	59.5	59.1	57.1	59.1	59.70	28.889	.896	. .
	48	Nadir 13h. 40m. . .	. .	3	. .	269 59 59.8	61.9	59.6	59.8	57.6	60.5	59.87	30.057	.070	. .
	49	Anon. 13h. 41m. 49s.	8.3	3	IV–VI.	164 44 60.9	63.2	62.9	62.1	58.4	60.1	61.27	27.692	.697	. .
	50	Lacaille 5754 . .	8.0	1	V.	158 44 60.4	63.4	62.7	61.7	56.9	58.3	60.57	27.942	.951	. .
	51	Anon. 13h. 50m. 11s.	8.0	1	V.	159 9 60.8	63.1	62.8	61.3	57.0	58.5	60.58	31.255	.272	30.080
	52	α Draconis, (Ref.) .	. .	5	III–VII.	296 9 60.0	62.0	59.7	57.9	57.2	57.9	59.12	34.663	.682	. .
	53	4 Ursæ Minoris . .	5.5	5	IV–VI.	50 44 59.3	63.4	63.5	62.6	59.0	63.9	61.95	33.623	.616	. .
	54	5 Ursæ Minoris . .	. .	3	III–IV.	52 34 58.8	61.6	61.6	62.3	57.7	62.1	60.68	27.632	.673	. .
	55	5 Ursæ Minoris, (Ref.)	. .	1	VII.	307 24 58.8	61.0	59.3	55.2	55.5	57.2	57.83	32.260	.336	30.086
	56	B. A. C. 4880 . .	6.0	5	III–VII.	154 24 59.6	62.2	60.9	58.7	55.5	57.4	59.05	34.218	.239	. .
	57	α Libræ	. .	4	VI–IX.	144 19 62.2	65.2	62.0	61.6	59.0	60.1	61.68	28.218	.242	. .
	58	O. Arg. S. 14278 .	8.7	1	V.	157 44 61.4	63.4	62.1	61.5	56.8	58.2	60.57	35.917	.925	. .
	59	Jupiter S. L. . .	. .	5	I–IX.	145 34 61.5	64.0	61.5	60.2	58.1	60.6	60.98	30.674	.684	30.085
	60	Jupiter N. L. . .	. .	4	II–VIII.	" " "	"	"	"	"	"	"	32.007	.024	. .
	61	Thetis	10.0	1	V.	137 59 61.8	65.0	61.1	60.6	57.1	59.9	60.92	34.696	.699	. .
	62	Anon. 15h. 25m. 0s.	9.0	1	V.	" " "	"	"	"	"	"	"	30.146	.163	. .
	63	Anon. 15h. 33m. 32s.	7.7	1	VI.	168 24 61.1	63.1	63.0	63.8	56.4	58.6	61.00	36.654	.661	. .
	64	O. Arg. S. 14839 .	8.5	5	III–VII.	151 14 61.3	63.1	62.1	61.9	57.0	59.2	60.77	36.940	.952	. .
	65	B. A. C. 1211, S. P.	. .	5	VI–IV.	29 14 62.5	67.5	66.3	69.5	62.1	63.9	65.30	31.662	.678	. .
	66	B. A. C. 5345 . .	. .	5	III–VII.	152 59 59.0	60.9	61.5	58.5	54.1	58.0	58.67	34.785	.789	. .

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	30.073	+ 44.0	+ 11.0	281 5 56.4	+ 49 59 35.6	+ 72.0	N.	
2	. .	. .	. .	− 47.3	− 11.0	78 54 5.8	+ 49 59 33.4			
3	. .	. .	. .	3 41.8	+ 2 17.4	157 58 35.6	− 29 4 56.4	88.9		
4	. .	. .	. .	2 32.7	− 27.5	63 52 1.6	+ 65 1 37.6	66.4		
5	. .	. .	. .	− 1 52.7	− 45.9	50 42 25.0	78 11 14.2	+ 63.4		
6	72.0	68.5	. .	+ 1 54.4	+ 45.9	309 17 39.5	78 11 18.8			
7	. .	. .	. .	− 52.1	− 3 16.3	15 40 52.4	66 47 13.1	− 60.7		
8	. .	. .	. .	− 1 12.6	+ 42.9	307 24 30.4	76 18 9.6	+ 59.9		
9	. .	. .	. .	+ 1 14.9	− 42.9	52 35 35.0	+ 76 18 4.2			
10	. .	. .	. .	14.3	+ 2 17.0	157 52 31.1	− 28 58 51.9	72.4		Faint.
11	71.5	67.7	. .	1 40.8	1 52.8	153 38 33.0	24 44 53.8	68.9		
12	. .	. .	. .	14.9	1 59.0	154 52 14.2	25 58 35.0	67.5		
13	. .	. .	. .	11.7	2 21.7	158 32 36.2	29 38 57.0	64.8		
14	. .	. .	. .	1 4.7	1 20.6	145 42 26.5	16 48 26.0			
15	. .	. .	. .	22.3	1 20.6	145 41 44.1				
16	. .	. .	. .	1 47.4	1 2.5	138 2 50.9	9 9 11.7			
17										
18	. .	. .	. .	+ 55.3	1 41.6	151 7 38.2	− 22 13 59.0	+ 48.1		
19	. .	. .	. .	− 55.5	0.2	90 14 7.4	+ 38 39 31.8	− 11.8	Ha.	
20	77.7	86.4	30.085	34.3	18.2	110 9 45.7	+ 18 43 53.5		D.	
21	76.0	87.7	. .	30.0	1 18.5	145 25 48.9	− 16 32 9.7	+ 27.6		
22										Image not very distinct.
23	75.7	75.0	. .	31.4	47.5	131 0 14.5	2 6 27.1			
24	. .	. .	. .	− 47.7	47.5	130 59 58.2				
25	. .	. .	. .	+ 1 4.8	+ 2 0.9	155 27 59.8	− 26 34 20.6	92.7		
26	75.0	72.4	. .	+ 2.6	− 20.3	249 59 44.5	+ 18 53 23.8	73.6		
27	. .	. .	. .	− 35.7	+ 2 1.2	155 26 26.7	− 26 32 47.5	76.9		
28	74.5	71.8	. .	1 2.8	− 1 17.6	215 37 41.4	15 28 39.3	+ 71.7		
29	. .	. .	. .	31.0	+ 1 19.9	145 40 47.9	− 16 46 48.2			
30	. .	. .	. .	1 11.9	1 19.9	145 40 7.0				
31										
32	. .	. .	. .	52.4	0.2	90 14 7.3	+ 38 39 31.9	− 12.1	Ha.	
33	. .	. .	. .	26.2	14.1	106 59 50.1	+ 22 9 36.0		N.	
34	77.5	87.8	30.006	− 1 59.3	13.6	106 28 16.3				
35										
36	76.0	74.0	. .	+ 2 51.1	1 19.2	145 39 9.4	− 16 45 8.8			
37	. .	. .	. .	2 8.4	1 19.2	145 38 16.7				
38	. .	. .	. .	1 57.2	1 1.5	138 2 57.9	9 9 18.7			Faint and uncertain.
39	. .	. .	. .	+ 1 22.4	+ 1 28.8	148 7 50.1	− 19 14 10.9	+ 54.8		
40	. .	. .	. .	− 50.4	− 1 38.7	29 12 33.0	+ 80 18 53.8	− 39.5		
41	. .	. .	. .	+ 48.8	+ 2 6.4	156 27 54.9	− 27 34 15.7	+ 43.7		Unsteady.
42	. .	. .	. .	− 29.8	3 2.8	163 22 34.0	34 28 54.8	42.0		Unsteady.
43	. .	. .	. .	+ 5 11.6	3 3.9	163 28 16.5	34 34 37.3	41.7		Fair.
44	. .	. .	. .	6 33.9	+ 3 4.2	163 29 39.1	− 34 35 59.9	39.6		Unsteady.
45	75.6	72.6	. .	14.0	− 42.1	52 49 34.4	+ 76 4 4.8	+ 30.7		
46	71.0	66.7	30.074	16.1	+ 1 13.4	322 31 27.7	+ 88 34 53.0	− 70.2		
47	. .	. .	. .	36.9	1 3.4	138 21 40.0	− 9 28 0.8	+ 89.5		Very steady.
48										
49	. .	. .	. .	1 14.5	3 24.3	164 49 40.0	35 56 0.8	92.5		
50	. .	. .	. .	+ 1 6.5	2 24.3	158 48 31.3	29 54 52.1	89.7		
51	70.5	66.1	. .	− 37.5	2 27.3	159 11 50.3	− 30 18 11.1	89.3		
52	. .	. .	. .	2 24.4	+ 27.8	296 7 62.5	+ 65 1 41.8	65.5		Very good.
53	. .	. .	. .	− 1 51.0	− 46.3	50 42 24.6	78 11 14.6	62.4		
54	. .	. .	. .	+ 1 15.2	− 43.3	52 35 32.5	76 18 6.7	59.1		
55	70.2	64.6	. .	− 1 10.9	+ 43.3	307 24 30.2	+ 76 18 9.5			Only ½ weight.
56	. .	. .	. .	− 2 10.5	1 57.8	154 24 46.3	− 25 31 7.1	74.4		
57	. .	. .	. .	+ 57.4	1 19.0	144 22 18.0	15 28 38.8	71.6		
58	. .	. .	. .	− 3 3.3	2 17.8	157 44 15.0	28 50 35.8	68.1		
59	68.5	62.3	. .	19.1	1 21.4	145 36 3.2	16 42 3.0			
60	. .	. .	. .	1 1.1	1 21.3	145 35 21.1				
61	. .	. .	. .	2 24.9	1 3.1	137 58 39.1	9 4 59.9			Faint and uncertain.
62	. .	. .	. .	2.8	1 3.1	138 1 1.2	9 7 22.0	56.8		
63	. .	. .	. .	3 26.4	4 29.4	168 26 4.0	39 32 24.8	56.9		
64	. .	. .	. .	3 35.5	+ 1 43.3	151 13 8.5	− 22 19 29.3	+ 53.7		
65	. .	. .	. .	50.3	− 1 41.6	29 12 33.4	+ 80 18 54.2	− 39.0		
66	. .	. .	. .	− 2 27.7	+ 1 51.3	152 59 22.2	− 24 5 43.0	+ 44.8		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Transit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
June 3	1	ν Scorpii	4.3	1	V.	147 59 59.7	62.3	61.0	61.1	54.5	58.9	59.58	32.960	.970	
	2	Anon. 16h. 10m. 36s.	9.2	1	IX.	158 54 60.2	63.5	63.0	63.8	55.6	58.9	60.83	26.949	.986	
	3	O. Arg. S. 15275		3	III–VII.	152 49 60.5	63.3	62.7	62.1	56.5	59.2	60.72	26.679	.686	
	4	O. Arg. S. 15788		3	III–VII.	" " "	"	"	"	"	"	"	43.243	.265	30.097
	5	α Lyræ		5	III–VII.	90 14 61.2	68.1	64.0	66.1	60.1	63.3	63.80	31.938	.947	
4	6	Sun N. L.		4	I–IV.	106 4 58.9	65.5	61.4	63.1	60.0	61.1	61.67	27.896	.898	
	7	Sun S. L.		4	VI–IX.	106 34 58.5	64.4	61.3	61.4	58.5	60.0	60.68	24.970	.964	
6	8	Sun S. L.		4	I–IV.	106 24 59.0	64.7	58.1	59.1	58.9	61.8	60.27	29.882	.883	
	9	Sun N. L.		4	VI–IX.	105 54 58.5	64.8	59.0	60.0	60.7	62.1	60.85	32.844	.834	29.932
	10	Nadir 5h. 15m.		3		269 59 57.4	55.5	55.1	53.9	54.7	59.0	55.93	29.943	.953	
	11	α Canis Majoris		4	I–IX.	145 24 61.1	63.3	56.7	57.6	57.1	61.8	59.60	31.023	.046	
	12	4 Ursæ Minoris		1	V.	50 44 60.7	64.0	64.5	62.1	63.1	66.6	63.50	33.644	.647	30.006
	13	Venus		5	I–IX.	108 9 61.1	69.6	63.3	63.9	59.8	62.6	63.38	27.353	.358	30.313
7	14	Sun S. L.		2	VII, IX.	106 19 61.1	70.5	64.5	66.5	63.4	63.8	64.97	31.355	.352	30.315
	15	Nadir 13h. 50m.		3		269 59 58.9	64.5	60.5	62.0	58.5	61.3	60.95	30.016	.025	
	16	ι Bootis		4	I–IX.	76 49 59.3	65.0	62.6	63.4	59.9	62.4	62.10	22.198	.175	30.280
	17	B. A. C. 5265		1	V.	154 39 59.7	66.5	62.0	61.9	58.7	59.2	61.33	23.350	.365	30.280
	18	B. A. C. 5395		1	V.	149 54 61.1	69.2	64.6	66.8	61.2	62.0	64.15	30.035	.048	
	19	Nadir 16h. 50m.		4		269 59 62.3	69.4	64.1	68.0	62.6	65.6	65.33	30.197	.206	
	20	α Lyræ		5	III–VII.	90 14 58.8	64.7	60.0	61.1	57.0	60.1	60.28	31.875	.881	
9	21	Sun N. L.		2	I, III.	105 39 60.1	66.4	60.9	60.5	61.0	63.1	62.00	34.766	.758	
	22	Sun S. L.		2	VI, VIII.	106 9 61.9	69.4	63.0	63.5	64.8	66.2	64.80	31.998	.000	29.575
10	23	Sun S. L.		4	I–IV.	106 4 58.7	66.4	61.4	62.2	59.5	61.2	61.57	30.895	.898	
	24	Sun N. L.		4	VI–IX.	105 34 58.1	65.8	60.9	62.1	59.5	61.0	61.23	33.782	.770	29.844
	25	Nadir 13h. 0m.		6		269 59 59.6	63.1	60.2	60.1	58.0	59.9	60.15*d*	29.996	.006	
	26	Polaris, S. P.		5	4–2.	37 29 59.6	64.7	63.8	65.5	59.4	61.4	62.40	30.368	.384	29.887
	27	α Virginis		5	I–IX.	139 19 61.2	65.3	60.6	62.6	58.0	59.8	61.25	30.378	.397	
	28	O. Arg. S. 12920	8.3	5	III–VII.	159 14 60.9	64.4	63.3	63.4	57.0	59.7	61.45	34.464	.478	
	29	Anon. 13h. 41m. 9s.	8.3	1	V.	158 54 60.4	64.2	62.8	63.5	56.9	59.4	61.20	33.022	.035	
	30	Anon. 13h. 50m. 10s.		1	V.	159 4 59.9	63.4	62.1	63.0	56.4	58.7	60.58	21.807	.811	29.907
	31	Lacaille 5855		5	III–VII.	152 34 59.5	62.2	61.5	60.5	54.9	58.5	59.52	29.912	.232	
	32	4 Ursæ Minoris		5	IV–VI.	50 44 58.4	64.1	63.5	63.6	58.7	62.8	61.85	33.662	.654	
	33	Lacaille 5956	7.0	5	III–VII.	154 14 60.1	63.9	61.8	60.7	56.1	58.0	60.10	27.773	.780	
	34	5 Ursæ Minoris	4.3	5	III–VII.	52 34 58.5	63.1	63.0	63.8	58.3	61.7	61.40	27.729	.701	
	35	Lacaille 6060	9.0	5	III–VII.	156 4 59.5	63.1	60.9	61.4	55.4	57.5	59.63	31.965	.979	29.920
	36	Anon. 14h. 41m. 42s.	9.0:	1	V.	165 39 59.3	63.7	60.8	62.4	55.9	58.6	60.12	30.195	.212	
	37	B. A. C. 4982		3	2–4.	45 49 59.6	64.5	64.5	64.9	59.1	60.4	62.17	29.316	.332	
	38	β^1 Scorpii, (Ref.)		2	I, IV.	211 44 59.6	62.2	63.2	64.2	55.4	61.3	60.98	35.854	.850	
	39	β^1 Scorpii		4	VI–IX.	148 19 60.1	63.5	62.2	62.0	55.7	57.9	60.23	33.853	.866	29.929
11	40	Sun N. L.		1	IX.	105 29 61.5	70.3	63.4	65.7	64.5	63.8	64.87	32.282	.274	30.001
12	41	Merc'y, centre of light		1	VI.	112 19 59.4	65.3	59.3	62.4	58.1	61.7	61.03	26.934	.936	30.275
	42	Venus		1	V.	106 49 57.0	64.6	59.4	59.4	56.4	58.5	59.22	26.079	.094	30.267
13	43	Moon N. L.		5	I–IX.	136 9 58.8	64.3	58.9	59.0	56.9	59.6	59.58	26.853	.865	30.199
	44	Saturn		5	I–IX.	130 59 59.5	62.9	57.4	58.5	55.8	58.2	58.72	31.535	.542	
	45	B. A. C. 4342		3	V–5.	44 44 59.5	63.3	62.0	61.8	58.6	60.5	60.95	29.353	.367	30.194
	46	50 Cassiopeæ, S. P.		5	VII–III.	20 39 59.6	65.4	64.1	65.3	59.9	59.5	62.30	26.797	.824	30.187
	47	Anon. 14h. 0m. 28s.	7.7	3	IV–VI.	161 14 59.1	62.2	62.2	61.0	54.6	58.4	59.58	29.166	.185	
	48	4 Ursæ Minoris	4.2	5	IV–VI.	50 44 59.5	65.3	63.9	64.5	59.7	63.8	62.78	33.668	.660	
	49	ι Cassiopeæ, S. P.		4	IX–VI.	15 44 59.7	64.2	63.1	63.7	57.5	58.8	61.17	31.543	.605	
	50	Lacaille 6035	7.5	5	III–VII.	155 24 58.9	62.3	60.9	60.4	55.5	57.1	59.18	31.200	.221	30.191
	51	Nadir 14h. 50m.		6		269 59 59.2	63.4	61.0	62.2	58.3	60.4	60.75*d*	30.022	.010	
	52	20 Libræ		5	I II, VII.	153 34 58.9	63.2	61.8	61.1	55.3	58.2	59.75	26.916	.927	
	63	O. Arg. S. 14279	9.0	5	III–VII.	150 24 59.6	63.5	62.6	62.5	57.2	57.7	60.52	27.276	.296	
	54	Jupiter S. L.		3	I–IX.	145 19 58.8	63.8	60.5	59.7	57.4	59.0	59.87	28.348	.373	
	55	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	29.736	.743	
	56	O. Arg. S. 14435	9.5	1	V.	159 9 58.9	63.5	62.9	62.5	55.6	57.4	60.13	28.524	.531	30.190
	57	γ^2 Ursæ Minoris	3.3	5	III–VII.	56 34 59.6	65.0	63.9	66.6	59.8	64.5	63.23	29.936	.920	
	58	κ Libræ		3	IV–VI.	148 4 59.7	62.2	61.8	61.1	54.8	56.7	59.38	27.443	.455	
	59	Anon. 15h. 39m. 18s.	8.5	1	V.	" " "	"	"	"	"	"	"	33.346	.361	
	60	B. A. C. 5211	8.0	1	V.	154 19 59.2	64.4	62.3	61.4	56.5	58.5	60.38	19.406	.419	
	61	π Scorpii	3.2	5	III–VII.	154 34 59.2	64.1	62.1	62.0	56.0	58.6	60.33	30.194	.215	30.185
	62	B. A. C. 5354	6.8	5	III–VII.	152 9 58.8	62.5	61.5	61.6	55.3	58.4	59.68	27.977	.991	
	63	B. A. C. 5421	8.8	5	III–VII.	158 14 58.5	62.9	62.2	62.3	54.9	56.7	59.58	29.190	.211	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	30.074	− 1 30.7	+ 1 31.0	147 59 59.8	− 19 6 20.6	+ 43.1	N.	
2	. .	. .	. .	+ 1 36.8	2 27.2	158 59 4.8	30 5 25.6	41.1		
3	. .	. .	. .	+ 1 46.2	1 51.0	152 53 37.9	23 59 58.7	34.5		
4	68.0	61.0	. .	− 6 53.3	1 50.3	152 44 57.7	− 23 51 18.5	+ 32.5		Faint and uncertain. Barometer and thermometer calculated from Meteorological Journal, and observations at transit of Jupiter.
5	. .	. .	. .	− 58.7	0.2	90 14 5.3	+ 38 39 33.9	− 13.1	Ha.	
6	. .	. .	. .	+ 1 8.2	13.7	106 6 23.5	22 31 30.0		N.	
7	70.0	77.2	. .	2 40.1	14.2	106 37 54.9				
8	. .	. .	30.083	+ 6.3	13.6	106 25 20.1	+ 22 44 5.3			
9	74.0	86.4	. .	− 1 26.2	13.1	105 53 47.7				
10										
11	75.0	86.8	. .	30.2	+ 1 18.3	145 25 47.7	− 16 32 8.5	+ 26.8		Wire V omitted.
12	73.5	67.4	. .	− 1 51.7	− 46.0	50 42 25.8	+ 78 11 13.4	62.0		Faint; very cloudy; only ½ weight.
13	67.5	67.7	30.000	+ 1 22.8	+ 17.1	108 11 43.3	20 41 55.9		D.	
14	68.3	68.0	. .	− 42.4	− 15 33.1	106 3 49.4	22 49 49.8			
15										
16	68.0	62.5	. .	+ 4 5.2	− 13.3	76 53 54.0	+ 51 59 45.2	65.1		Wire V omitted.
17	66.7	60.4	. .	+ 3 27.9	+ 2 1.3	154 45 30.5	− 25 51 51.3	50.6		
18	. .	59.5	. .	− 1.4	1 39.2	149 56 41.9	− 21 3 2.7	+ 42.7		
19										Image faint and unsteady.
20	. .	. .	. .	58.9	0.2	90 14 1.5	+ 38 39 37.7	− 14.3	Ha.	
21	. .	. .	. .	2 29.1	12.8	105 37 45.7	23 0 8.7		D.	
22	73.0	85.0	. .	1 2.7	13.2	106 9 15.3				
23	. .	. .	30.001	28.1	13.8	106 4 47.2	23 4 37.4		N.	
24	69.0	67.5	. .	1 58.1	+ 13.3	105 33 16.4				Unsteady.
25										
26	69.0	63.5	. .	12.0	− 1 13.5	37 28 36.9	+ 88 34 57.7	− 69.5		
27	. .	. .	. .	12.4	+ 1 5.6	139 20 54.4	− 10 27 15.2	+ 91.0		
28	. .	. .	. .	2 20.3	2 29.0	159 15 10.1	30 21 30.9	95.4		
29	. .	. .	. .	− 1 35.1	2 25.3	158 55 51.4	30 2 12.2	91.7		
30	68.3	63.1	. .	+ 4 16.6	2 27.3	159 11 44.4	30 18 5.2	89.7		Cloudy.
31	. .	. .	. .	+ 24.1	+ 1 48.7	152 37 12.3	− 23 43 33.1	84.4		
32	. .	. .	. .	− 1 54.5	− 46.3	50 42 21.0	+ 78 11 18.2	61.0		
33	. .	. .	. .	+ 1 9.6	+ 1 57.0	154 18 6.7	− 25 24 27.5	80.2		
34	. .	. .	. .	+ 1 12.1	− 43.3	52 35 30.2	+ 76 18 9.0	57.6		
35	. .	61.5	. .	− 1 2.0	+ 2 7.2	156 6 4.8	− 27 12 25.6	76.7		
36	. .	.	. .	− 6.6	+ 3 38.3	165 43 31.8	− 36 49 52.6	76.3		
37	. .	. .	. .	+ 21.0	− 55.1	45 49 28.0	+ 83 4 11.2	50.0		Through clouds.
38	. .	. .	. .	− 3 3.3	− 1 32.0	211 40 25.7	− 19 25 55.1	40.8		
39	65.7	59.7	. .	2 1.1	+ 1 32.0	148 19 31.1	− 19 25 51.9	40.8		
40	68.5	68.2	. .	− 1 11.2	16 0.4	105 44 54.0	+ 23 8 45.2		D.	
41	68.3	70.0	30.010	+ 1 36.3	18.9	112 21 56.2	16 31 43.0		N.	
42	69.0	68.4	. .	2 2.7	+ 15.7	106 52 17.6	+ 22 1 21.6			Cloudy. Very unsteady.
43	70.2	66.4	. .	+ 1 38.5	− 23 35.4	135 48 2.7	− 6 54 23.5			
44	. .	. .	. .	− 48.0	+ 48.7	130 59 59.4	− 2 6 20.2			
45	. .	65.3	. .	+ 20.2	− 57.3	44 44 23.8	+ 84 9 15.4	+ 71.6		
46	67.3	61.1	. .	1 39.8	− 2 30.5	20 39 11.6	+ 71 45 32.4	− 63.7		
47	. .	. .	. .	+ 25.8	+ 2 47.3	161 18 12.6	− 32 24 33.4	+ 87.9		
48	. .	. .	. .	− 1 54.4	− 46.9	50 42 21.4	+ 78 11 17.8	+ 60.5		
49	. .	. .	. .	50.0	− 3 20.8	15 40 50.3	+ 66 47 11.1	− 59.3		
50	. .	59.6	. .	− 37.9	+ 2 4.9	155 26 26.1	− 26 32 46.9	+ 77.4		
51										
52	. .	. .	. .	+ 1 36.6	1 55.6	153 38 31.9	24 44 52.7	69.4		
53	. .	. .	. .	1 25.0	1 41.3	150 28 6.8	21 34 27.6	67.2		
54	. .	. .	. .	51.3	1 21.7	145 22 12.8	16 28 12.1			
55	. .	. .	. .	8.4	1 21.7	145 21 29.9				
56	. .	57.7	. .	46.3	+ 2 30.5	159 13 16.9	− 30 19 37.7	65.4		Uncertain. Extremely faint.
57	. .	. .	. .	2.8	− 38.1	56 34 27.9	+ 72 19 11.3	44.6		
58	. .	. .	. .	+ 1 20.1	+ 1 32.6	148 7 52.0	− 19 14 12.8	54.8		
59	. .	. .	. .	− 1 45.0	1 32.4	148 4 46.7	19 11 7.5	52.9		
60	. .	. .	. .	+ 5 31.8	2 0.1	154 27 32.2	25 33 53.0	53.6		
61	. .	56.6	. .	− 6.4	2 1.1	154 36 55.0	25 43 15.8	53.4		
62	. .	. .	. .	+ 1 3.3	1 49.2	152 12 52.1	23 19 12.9	45.1		
63	. .	. .	. .	+ 25.0	+ 2 24.1	158 17 48.6	− 29 24 9.4	+ 42.6		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
June 13	1	19 Scorpii	5.0	3	III–VII.	152 44 58.9	62.3	61.6	62.0	54.9	57.7	59.57	35.442	.457	- -
	2	O. Arg. S. 15612	9.0	1	V.	152 59 58.9	62.5	63.1	62.0	55.5	57.9	59.98	28.622	.628	- -
	3	O. Arg. S. 15784	7.7	1	V.	151 29 59.7	63.6	63.1	62.9	56.5	58.0	60.63	32.399	.412	- -
	4	Anon. 16h. 35m. 30s.	- -	5	III–VII.	167 54 60.2	64.9	65.1	65.6	57.9	58.4	62.02	25.796	.806	30.183
	5	O. Arg. S. 16047	7.5	1	V.	158 59 59.8	65.0	64.9	64.6	56.1	58.5	61.48	24.197	.214	- -
14	6	Mercury	- -	3	III–VII.	111 54 60.5	67.5	60.8	64.8	60.2	62.5	62.72	32.688	.688	30.040
	7	Venus	- -	1	V.	106 29 59.0	69.8	60.7	64.5	61.4	61.7	62.85	29.295	.311	30.031
15	8	Sun N. L.	- -	4	VI–IX.	105 14 56.8	66.1	59.4	62.4	60.9	60.6	61.03	26.980	.976	30.021
	9	B. A. C. 4342	- -	3	1–5.	44 44 56.7	61.5	59.1	57.3	58.7	58.4	58.62	29.293	.308	29.972
	10	Polaris, S. P.	- -	5	5–1.	37 29 57 5	62.4	60.9	60.2	59.9	60.0	60.15	30.354	.373	- -
	11	ζ Ursæ Majoris	- -	5	III–VII.	73 14 58.3	63.3	61.0	61.2	61.5	63.5	61.47	28.732	.724	- -
	12	Nadir 13h. 40m.	- -	4	- -	269 59 58.6	59.5	57.8	56.4	58.7	61.1	58.68	29.937	.947	- -
	13	Lacaille 5692	- -	1	V.	156 19 59.5	62.1	58.2	56.9	57.3	58.7	58.78	25.598	.602	- -
	14	50 Cassiopeæ, S. P.	- -	5	VII–III.	20 39 59.6	62.7	61.6	60.5	59.7	60.0	60.68	26.896	.926	29.973
	15	4 Ursæ Minoris, (Ref.)	- -	3	Near IV.	309 14 59.5	61.0	58.9	53.6	57.2	59.3	58.25	26.222	.261	- -
	16	Moon N. L.	- -	5	III–VII.	143 54 60.4	62.9	59.8	57.7	59.6	61.0	60.23	32.965	.977	- -
	17	5 Ursæ Minoris	- -	3	IV–V.	52 34 60.4	63.3	63.7	62.4	61.5	64.9	62.70	27.759	.755	- -
	18	5 Ursæ Minoris, (Ref.)	- -	4	VI–IX.	307 24 59.6	61.6	57.8	53.8	60.2	59.8	58.80	32.130	.246	- -
	19	β Ursæ Minoris, (Ref.)	- -	2	V, VI.	305 49 60.3	61.8	58.1	56.5	57.8	59.9	59.07	32.874	.888	- -
	20	β Ursæ Minoris	- -	2	VIII, IX.	54 9 60.5	63.3	62.1	61.6	61.7	64.4	62.27	27.333	.206	29.989
	21	Jupiter S. L.	- -	2	V, VII.	145 19 61.4	63.6	59.5	58.0	58.7	61.7	60.48	32.765	.770	- -
	22	Jupiter N. L.	- -	2	VI, VIII.	" " "	"	"	"	"	"	"	34.056	.075	- -
	23	B. A. C. 5039	7.3	1	V.	152 39 60.5	62.5	61.8	59.5	58.4	61.3	60.67	33.964	.974	- -
	24	B. A. C. 5041	7.3	1	V.	" " "	"	"	"	"	"	"	33.295	.311	- -
	25	α Cor. Borealis, (Ref.)	- -	4	I–IV.	258 14 59.6	62.1	60.9	60.9	61.2	65.3	61.67	26.194	.223	- -
	26	α Coronæ Borealis	- -	3	VII–IX.	101 39 60.1	64.6	60.0	60.1	60.1	63.0	61.32	24.418	.414	29.986
	27	ε Serpentis	- -	2	II, III.	123 59 60.5	56.5	52.9	51.4	52.1	54.9	54.72	30.424	.434	- -
	28	ε Serpentis, (Ref.)	- -	4	VI–IX.	235 59 60.1	61.3	63.0	60.6	60.3	64.2	61.58	29.499	.509	- -
	29	δ Scorpii	- -	5	I–IX.	151 4 60.4	63.0	62.0	58.4	58.0	59.5	60.22	28.201	.228	- -
	30	B. A. C. 5364	7.5	5	III–VII.	155 24 60.8	63.4	61.0	59.0	58.3	60.1	60.43	31.013	.029	- -
	31	B. A. C. 5395	7.0	1	V.	149 54 60.9	63.0	61.8	59.4	58.5	59.7	60.55	29.901	.908	- -
	32	O. Arg. S. 15466	6.8	5	III–VII.	" " "	"	"	"	"	"	"	39.938	.950	- -
	33	ρ Ophiuchi, (South *)	6.0	1	V.	151 59 61.5	63.9	62.5	59.9	59.8	61.2	61.47	30.516	.524	29.978
	34	ρ Ophiuchi, (North *)	7.0	1	VIII.	" " "	"	"	"	"	"	"	30.622	.638	- -
	35	ζ Ophiuchi	3.0	5	I–IX.	139 9 61.3	64.8	61.8	60.0	60.6	60.4	61.48	30.275	.296	- -
	36	B. A. C. 5571	7.7	4	VI–IX.	153 4 60.6	62.1	62.0	59.9	58.3	60.5	60.57	32.187	.215	- -
	37	O. Arg. S. 15950	9.0	3	IV–VI.	157 34 60.0	63.6	61.0	59.6	58.4	58.5	60.18	32.025	.039	- -
	38	B. A. C. 5663	6.3	1	V.	149 4 58.8	61.0	59.7	57.4	56.2	56.9	58.33	33.509	.517	29.980
	39	Nadir	- -	4	- -	269 59 60.6	63.0	60.4	60.0	60.5	62.9	61.23	30.017	.029	- -
	40	Venus	- -	5	I–IX.	106 19 60.8	70.8	63.9	65.0	65.6	66.8	65.48	29.073	.077	29.978
16	41	Sun N. L.	- -	2	I, III.	105 14 59.8	70.7	63.5	65.0	65.6	66.2	65.13	30.956	.954	- -
	42	Sun S. L.	- -	2	VII, IX.	105 44 62.4	72.3	64.0	65.0	67.6	68.3	66.60	28.342	.342	29.979
	43	α Canis Majoris	- -	2	VII, IX.	145 24 63.0	69.9	62.3	62.5	64.7	65.5	64.65	31.248	.275	29.961
	44	Nadir 14h. 30m.	- -	3	- -	269 59 62.4	67.7	62.3	62.8	63.5	68.2	64.48	30.182	.191	- -
	45	Lacaille 6137	- -	1	V.	161 39 63.0	69.0	66.3	63.9	62.0	65.6	64.97	38.414	.426	29.964
	46	Moon N. L.	- -	5	I–IX.	146 49 59.0	64.3	59.7	62.6	59.2	61.6	61.07	24.980	.998	- -
	47	B. A. C. 5145	- -	3	II, V, VIII.	154 44 58.5	65.8	61.8	59.5	60.3	62.8	61.45	36.881	.897	29.964
	48	B. A. C. 1211, S. P.	- -	2	5, 1.	29 14 58.7	66.7	64.3	63.9	62.8	64.9	63.55	31.744	.748	- -
	49	δ Ophiuchi, (Ref.)	- -	3	III, V, VIII.	227 39 58.4	63.6	62.7	60.6	60.0	65.4	62.78	17.183	.199	29.964
	50	Lacaille 6925	- -	1	V.	157 34 57.7	64.3	61.0	59.3	58.3	60.2	60.13	36.737	.740	- -
	51	α Camelopardi, S. P.	- -	5	VII–III.	14 59 58.4	66.1	63.5	62.0	59.5	61.0	61.75	23.699	.719	- -
	52	ε Ursæ Minoris	- -	2	1, 5.	46 39 59.0	65.0	63.9	62.6	62.3	64.9	62.95	31.912	.919	29.972
	53	Nadir 17h. 35m.	- -	3	- -	269 59 59.5	65.3	60.7	61.2	60.2	65.1	62.00	30.099	.109	- -
	54	B. A. C. 6236	- -	1	V.	161 14 57.9	63.4	62.5	59.8	57.3	60.7	60.27	35.253	.270	29.975
	55	50 Draconis	- -	1	V.	53 39 58.8	65.4	63.9	62.6	61.0	64.6	62.72	34.026	.039	- -
	56	ζ Aquilæ, (Ref.)	- -	5	I–IX.	244 44 60.3	64.6	64.1	62.3	60.6	65.5	62.90	26.679	.688	29.980
	57	Mercury	- -	1	V.	111 19 62.2	66.5	59.0	60.9	61.0	65.0	62.43	28.925	.933	30.061
	58	Venus	- -	5	III–VII.	106 9 59.9	66.4	59.9	59.8	63.1	63.3	62.07	27.407	.417	30.062
17	59	Sun N. L.	- -	4	I–IV.	105 14 59.6	65.1	58.7	58.9	62.9	63.2	61.40	34.085	.090	- -
	60	Sun S. L.	- -	4	VI–IX.	105 44 58.5	64.2	57.9	56.5	61.9	62.0	60.17	31.194	.199	30.060
	61	50 Cassiopeæ, S. P.	- -	5	VII–III.	20 39 58.8	58.5	60.2	56.4	57.9	59.8	58.60	26.807	.834	30.078
	62	Nadir 14h. 5m.	- -	4	- -	269 59 62.1	60.3	58.9	56.5	59.9	64.0	60.28	29.972	.982	- -
	63	Lacaille 5910	7.2	5	III–VII.	156 34 61.0	60.2	58.4	56.6	57.9	60.7	59.13	34.109	.129	- -
	64	O. Arg. S. 13629	8.5	5	III–VII.	156 9 61.4	60.2	58.4	56.0	57.5	60.2	58.95	31.470	.484	- -
	65	O. Arg. S. 13647	8.0	1	V.	" " "	"	"	"	"	"	"	29.451	.462	- -

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	30.010	— 2 50.7	+ 1 51.7	152 44 0.5	— 23 50 21.3	+ 40.3	N.	
2	- -	- -	- -	+ 43.3	1 53.2	153 2 36.4	24 8 57.2	38.0		
3	- -	- -	- -	— 1 15.3	1 46.2	151 30 31.5	22 36 52.3	32.8		
4	61.7	55.5	- -	+ 2 11.7	4 24.9	168 1 38.6	39 7 59.4	31.7		
5	- -	- -	- -	+ 3 1.6	2 30.3	159 5 33.3	— 30 11 54.1	27.1		
6	65.0	75.0	29.990	— 1 24.5	18.3	111 53 56.5	+ 16 59 42.7			
7	66.2	76.2	- -	+ 21.3	15.0	106 30 39.1	22 23 0.1			Very unsteady.
8	67.0	77.4	- -	1 34.4	+ 15 59.7	105 32 35.1	23 21 4.1			
9	70.7	74.1	- -	+ 21.4	— 55.9	44 44 24.1	84 9 15.2	+ 71.4		} Very good.
10	- -	72.1	- -	— 12.0	1 12.5	37 28 35.6	88 34 56.4	— 69.1		
11	- -	- -	- -	+ 39.7	— 16.8	73 15 24.3	+ 55 38 14.9	+ 71.6		
12										
13	- -	- -	- -	2 17.5	+ 2 7.1	156 24 23.3	— 27 30 44.1	+ 90.9		
14	70.2	69.2	- -	1 36.0	— 2 27.0	20 39 9.6	+ 71 45 30.4	— 63.5		
15	- -	- -	- -	+ 1 56.8	+ 45.8	309 17 40.8	+ 78 11 20.1	+ 60.1		Middle reading at wire IV
16	- -	- -	- -	— 1 33.6	— 28 48.2	143 24 38.4	— 14 30 59.2			
17	- -	- -	- -	+ 1 10.0	— 42.9	52 35 29.8	+ 76 18 9.4	56.5		
18	- -	- -	- -	— 1 10.7	+ 42.9	307 24 31.0	76 18 10.3			
19	- -	- -	- -	— 1 30.8	+ 40.6	305 49 8.8	74 42 48.1	51.4		
20	- -	67.2	- -	+ 1 27.2	— 40.6	54 10 48.8	+ 74 42 50.4			
21	- -	- -	- -	— 1 27.1	+ 1 19.5	145 19 52.8 }	— 16 25 53.2			
22	- -	- -	- -	2 8.0	1 19.5	145 19 11.9 }				
23	- -	- -	- -	2 4.8	1 48.3	152 39 44.1	23 46 4.9	63.9		
24	- -	- -	- -	— 1 44.1	+ 1 48.3	152 40 4.8	— 23 46 25.6	63.8		
25	- -	- -	- -	+ 1 58.0	— 11.7	258 16 47.9	+ 27 10 27.1	47.9		
26	69.3	66.1	- -	+ 2 54.7	+ 11.7	101 43 7.7	27 10 31.5			
27	- -	- -	- -	— 13.9	+ 38.0	124 0 18.8	4 53 20.4	46.9		
28	- -	- -	- -	+ 15.1	— 38.0	235 59 38.6	+ 4 53 17.8			
29	- -	- -	- -	+ 55.2	+ 1 41.9	151 7 37.3	— 22 13 58.1	48.2		
30	- -	- -	- -	— 32.6	2 2.7	155 26 30.5	26 32 51.3	45.0		
31	- -	- -	- -	+ 2.6	1 37.1	149 56 40.2	21 3 1.0	42.7		
32	- -	- -	- -	— 5 12.1	1 36.8	149 51 25.2	20 57 46.0	41.4		
33	68.7	64.5	- -	16.7	1 45.9	152 1 30.6	23 7 51.4	38.1		} Double *. Same R. A.
34	- -	- -	- -	20.3	1 45.9	152 1 27.0	23 7 47.8	38.1		
35	- -	- -	- -	9.6	1 5.4	139 10 57.2	10 17 18.0	31.7		
36	- -	- -	- -	1 9.7	1 50.9	153 5 41.7	24 12 2.5	31.5		
37	- -	- -	- -	1 4.2	2 16.2	157 36 12.1	28 42 32.9	29.3		
38	67.8	62.5	- -	— 1 50.5	1 34.2	149 4 42.0	— 20 11 2.8	26.0		Barometer and thermometer taken at 17h. 0m.
39										
40	71.5	80.4	30.046	+ 30.4	14.7	106 20 50.5	+ 22 32 48.7		D.	
41	- -	- -	- -	— 28.4	12.7	105 14 49.4 }	+ 23 23 7.9			Eye-piece not well arranged; wires scarcely visible.
42	73.0	81.9	- -	+ 53.4	13.2	105 46 13.2 }				
43	73.5	83.1	- -	— 38.5	1 18.9	145 25 45.0	— 16 32 5.8	24.8		Very steady.
44										
45	76.5	71.3	- -	— 4 22.6	+ 2 45.7	161 38 28.0	32 44 48.8	74.3		
46	- -	- -	- -	+ 2 38.2	— 30 49.5	146 21 49.7	17 28 10.5			
47	71.5	69.5	- -	— 3 34.7	+ 1 57.6	154 43 24.3	— 25 49 45.1	+ 57.7		
48	- -	- -	- -	— 53.3	— 1 39.6	29 12 30.6	+ 80 18 51.4	— 35.9		Recorded 28.744r.
49	71.2	69.5	- -	+ 6 42.5	— 50.8	227 45 54.4	— 3 20 26.4	+ 39.6		
50	- -	- -	- -	— 3 29.7	+ 2 14.5	157 33 44.9	— 28 40 5.7	+ 32.7		
51	- -	68.6	- -	+ 3 18.2	— 3 25.0	14 59 54.9	+ 66 6 15.7	— 20.2		
52	71.0	68.3	- -	— 58.7	— 52.9	46 38 11.3	+ 82 15 27.9	+ 13.8		The readings of the barometer and thermometers were taken at 17h. 22m.
53										
54	70.5	67.4	- -	2 43.7	+ 2 43.3	161 14 59.8	— 32 21 20.6	— 14.4		
55	- -	66.5	- -	— 2 5.1	— 41.4	53 37 16.2	+ 75 16 23.0	22.2		Recorded 26.026r.
56	70.0	66.4	- -	+ 1 45.2	— 26.5	244 46 21.6	13 40 0.8	28.7		
57	76.0	86.9	29.973	32.6	+ 17.5	111 20 52.5	17 32 46.7		N.	
58	78.0	88.7	- -	+ 1 20.1	14.4	106 11 36.5	22 42 2.7			
59	- -	- -	- -	— 2 9.0	12.5	105 13 4.9 }	23 24 49.4			
60	78.5	90.2	- -	— 38.4	+ 13.0	105 44 34.7 }				
61	78.0	77.8	- -	+ 1 38.3	— 2 25.1	20 39 11.8	+ 71 45 32.5	— 63.4		
62										
63	- -	- -	29.978	— 2 10.1	+ 2 6.8	156 34 55.8	— 27 41 16.6	+ 82.9		
64	- -	- -	29.980	— 47.1	2 4.6	156 11 16.4	27 17 37.2	81.3		
65	- -	- -	29.980	+ 16.2	+ 2 4.7	156 12 19.8	— 27 18 40.6	+ 81.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd	Barometer.
						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
1864.															
June 17	1	Anon. 14h. 37m. 23s.	. .	1	V.	154 4 61.8	61.2	60,3	54.9	58.3	61.2	59.62	26.097	.112	. .
	2	*a* Libræ	. .	3	IV–VI.	144 19 60.5	60.2	57,5	54.5	57.9	60,5	58.52	28.062	.077	30.108
	3	B. A. C. 4982 . . .	. .	3	1, 3, 5.	45 49 60.5	60.4	62.1	57.1	60.2	62.8	60.52	29.283	.299	. .
	4	Jupiter N. L, . . .	. .	5	I–IX.	145 14 60.6	60.5	57.7	54.0	57.0	61.5	58.55	28.584	.596	. .
	5	Jupiter S. L. . . .	. .	4	II–VIII.	" " "	"	"	"	"	"	"	27.252	.274	. .
	6	γ Ursæ Minoris . .	. .	5	III–VII.	56 34 60.5	59.6	61.5	58.0	60.2	66.5	61.05	29,901	.884	30.121
	7	B. A. C. 5145 . .	8.0	5	III–VII.	154 39 60.9	60.4	58,5	54.5	56.6	61.5	58.73	27.194	.215	. .
	8	O. Arg. S. 14839 .	7.8	1	V.	151 9 61.5	60.9	59.1	56.1	57.0	60.3	59.15	27.231	.248	. .
	9	B. A. C. 5228 . .	. .	1	V.	154 44 60.6	60.9	59,0	55.1	56.6	60.5	58.78	31.692	.695	. .
	10	B. A. C. 1211, S. P.	. .	2	V, 1.	29 14 61.7	61.5	62.7	61.0	61.1	63.8	61.97	31.633	.637	. .
	11	B. A. C. 5335 . .	. .	5	III–VII.	152 4 61.6	61.6	60.7	58.0	57.6	62.8	60.38	28.247	.267	. .
	12	Moon N. L. . . .	. .	5	I–IX.	148 54 60.9	59.0	58.5	55.5	54.8	58.5	57.87	28.564	.579	. .
	13	ψ Ophiuchi	. .	5	I–IX.	148 34 60.7	59.5	59.0	55.0	55.6	58.8	58.10	29.741	.753	30.141
	14	η Ursæ Minoris . .	. .	1	V.	52 49 60.1	60.6	62.1	59.2	58.3	64.5	60.80	29.627	.631	. .
	15	ζ Ophiuchi	. .	5	I–IX.	139 9 59.6	59.3	56.6	55.0	55.5	58.7	57.45	30.108	.128	. .
	16	Anon. 16h. 35m. 40s.	. .	1	VI.	149 19 60.5	60.0	58.9	56.2	56.0	59.0	58.43	33.326	.343	. .
	17	*a* Camelopardi, S. P. .	. .	4	IV–I.	15 4 61.8	60.9	62.1	59.1	57.3	60.0	60.20	33.094	.163	30.139
	18	24 Ophiuchi . . .	. .	1	V.	151 49 62.7	63.0	61.6	59.0	58.6	62.8	61.28	34.333	.348	. .
	19	B. A. C. 5730 . .	. .	1	V.	152 54 60.7	59.4	60.2	57.4	55.4	61.2	59.05	31.174	.191	. .
	20	Nadir 17h. 5m. . .	. .	4	. .	269 59 61.6	60.7	59.0	58.1	58.0	63.5	60.15	30.034	.046	. .
	21	Venus	. .	5	I–IX.	106 4 65.4	74.9	69.0	70.1	67.3	68.8	69.25	34.485	.483	29.991
18	22	Sun S. L. . . .	. .	2	I, III.	105 44 57.7	66.8	59.1	61.7	59.8	61.2	61.05	33.611	.601	29.988
	23	Sun N. L. . . .	. .	2	VII, IX.	105 9 59.9	67.3	61.0	62.9	60.1	63.0	62.37	26.899	.893	. .
	24	Nadir 14h. 40m. . .	. .	4	. .	269 59 57.7	61.0	57.7	56.8	56.8	60.3	58.38	29.934	.944	. .
	25	Jupiter S. L. . .	. .	3	I, V, IX.	145 14 57.5	61.6	58.6	55.7	55.5	58.1	57.83	29.253	.279	30.160
	26	Jupiter N. L. . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	30.544	.554	. .
	27	Moon N. L. . . .	. .	3	I, III, V.	149 44 57.0	57.8	58.0	54.5	57.9	53.5	56.45	26.876	.881	30.160
	28	Moon S. L. . . .	. .	1	IX.	150 19 56.7	59.8	58.0	55.2	53.2	55.6	56.42	31.694	.728	. .
	29	Nadir 17h. 20m. . .	. .	3	. .	269 59 56.3	61.5	57.6	58.5	55.9	58.5	58.05	29.971	.981	. .
20	30	Sun S. L. . . .	. .	4	I–IV.	105 39 60.0	66.7	61.6	62.7	60.5	63.1	62.43	26.338	.343	. .
	31	Sun N. L. . . .	. .	4	VI–IX.	105 9 57.5	64.0	58.5	60.0	57.0	59.9	59.48	29.064	.068	30.173
	32	Polaris, S. P., (Ref.)	. .	5	4–2.	322 29 59.4	57.3	59.0	53.5	54.8	56.6	56.78	29.404	.420	. .
	33	Polaris, S. P. . .	. .	5	. .	37 29 60.0	61.9	61.7	61.1	59.4	60.8	60.82	30.265	.347	30.153
	34	Nadir 14h. . . .	. .	6	. .	269 59 60.2	59.6	58,5	57.7	56.5	60,8	58.88*d*	29.978	.988	. .
	35	ι Cassiopeæ, S. P. .	. .	5	VII–III.	15 44 60.1	61.3	61.7	59.7	56.0	58.9	59.62	31.635	.657	30.162
	36	Lacaille 5977 . .	7.8	1	V.	155 54 60.4	60.4	59.3	58.0	54.5	58,2	58.47	24.484	.493	. .
	37	O. Arg. S. 13757 .	8.7	1	VII.	154 4 61.0	60.7	60.8	57,5	55.4	58.4	58.97	31.606	.617	. .
	38	Anon. 14h. 37m. 12s.	9.5	3	III, V, VII.	" " "	"	"	"	"	"	"	26.176	.197	. .
	39	56 Hydræ	5.5	1	VII.	154 19 61.9	62.2	61.2	58.3	56.3	60,3	60.03	24.588	.600	. .
	40	β Ursæ Minoris . .	. .	3	IV, IV½, V.	54 9 61.1	62.1	62.2	61.9	59.1	63.5	61.65	27.107	.116	. .
	41	β Ursæ Minoris, (Ref.)	. .	3	VI½, VII, VIII	305 49 62.9	62.7	61.6	58.0	57.7	60.1	60.50	32.762	.827	. .
	42	B. A. C. 4982 . .	. .	1	. .	45 49 63.2	65.1	66.5	65.0	61.4	64.6	64.30	29.402	.420	. .
	43	Jupiter S. L. . .	. .	3	I, V, IX.	145 14 62.9	63.2	61.1	59.2	57.6	61.4	60.90	32.960	.979	30.171
	44	Jupiter N. L. . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	34.242	.263	. .
	45	γ^2 Ursæ Minoris . .	. .	3	IV, IV½, V.	56 34 60.4	62.3	63.8	62.6	59.8	65.5	62.40	29.914	.916	. .
	46	γ^2 Ursæ Minoris, (Ref.)	. .	3	VII–IX.	303 24 61.7	62.6	62.6	59.2	57.9	59.5	60.58	29.989	.096	. .
	47	B. A. C. 5149 . .	. .	1	VII.	156 39 62.2	63.1	62.6	61.1	56.5	59.9	60.90	35.855	.868	. .
	48	Anon. 15h. 39m. 39s.	8.8	1	V.	149 39 62.3	62.0	61.8	60.6	56.2	59.0	60.32	28.791	.794	. .
	49	Lacaille 6582 . .	. .	1	V.	168 14 61.7	61.4	63.4	62.5	56.0	59.5	60.75	26.209	.226	30.176
	50	O. Arg. S. 15195 .	7.7	5	III–VII.	152 44 61.2	61.6	62.0	60.5	54.9	60.0	60.03	34.356	.374	. .
	51	B. A. C. 5364 . .	7.0	1	V.	155 24 61.6	61.9	61.9	60.0	55.8	59.2	60.07	31.015	.027	. .
	52	Anon. 16h. 10m. 26s.	9.2	1	V.	158 59 62.2	64.0	64.1	63.2	57.0	60.5	61.83	28.116	.132	. .
	53	Anon. 16h. 10m. 35s.	9.0	1	VII.	" " "	"	"	"	"	"	"	36.489	.506	. .
	54	*a* Scorpii, (Ref.) . .	. .	2	V, VI.	204 59 63.0	63.0	65.6	63.8	56.3	62.0	62.28	28.771	.773	. .
	55	*a* Scorpii	. .	1	IX.	154 59 62.4	63.7	62.8	61.6	57.1	61.6	61.53	31.370	.408	. .
	56	B. A. C. 6236 . .	7.7	1	V.	161 9 63.7	66.2	67.1	65.5	57.3	62.5	63.72	25.957	.967	30.094
	57	Anon. 18h. 22m. 22s.	9.0	5	III–VII.	" " "	"	"	"	"	"	"	23.866	.877	. .
	58	Anon. 18h. 30m. 39s.	8.7	1	V.	160 59 60.9	64.0	64.9	62.5	55.3	59.4	61.17	30.614	.618	. .
	59	Moon N. L. . . .	. .	5	III–VII.	147 14 60.7	64.0	63.1	62.5	55.5	59.6	60.90	27.626	.634	30.186
	60	Nadir 19h. 30m. . .	. .	4	. .	269 59 61.3	63.8	63.5	63.9	57.9	61.0	61.91*d*	30.072	.023	. .
	61	Mercury, centre . .	. .	1	V.	110 4 61.5	66.0	60.7	60.9	59.2	61.0	61.55	34.010	.022	30.302
	62	Venus, centre . .	. .	5	III–VII.	105 39 61.8	67.5	62.0	62.2	63.0	63.0	63.25	28.069	.080	30.314
21	63	Sun N. L. . . .	. .	4	I–IV.	105 9 60.7	65.5	58.7	60.3	59.9	62.2	61.22	29.088	.093	30.314
	64	Sun S. L. . . .	. .	4	VI–IX.	105 39 62.4	68.0	61.8	63.0	64.0	64.9	64.02	26.347	.352	. .
	65	*a* Canis Majoris . .	. .	5	III–VII.	145 24 59.9	61.0	54.0	54.8	56.0	58.9	57.43	31.028	.043	30.310

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.986	+ 2 1.4	+ 1 53.9	154 8 54.9	— 25 15 15.7	+ 75.5	N.	Hazy; faint and uncertain.
2	77.2	75.9	29.988	59.9	+ 1 17.3	144 22 15.7	— 15 28 36.5	71.3		
3	. .	. .	29.991	21.7	— 54.0	45 49 28.2	+ 83 4 11.0	48.4		
4	. .	. .	29.997	43.9	+ 1 18.6	145 17 1.0	— 16 23 42.5			
5	. .	. .	29.997	1 25.3	+ 1 18.6	145 17 42.4				
6	. .	73.4	30.002	3.7	— 36.8	56 34 27.9	+ 72 19 11.3	43.5		Very steady.
7	. .	. .	30.006	1 27.4	+ 1 57.5	154 43 23.6	— 25 49 44.4	57.7		
8	. .	. .	30.009	+ 1 26.5	1 41.3	151 13 6.9	22 19 27.7	53.9		
9	. .	. .	30.011	— 52.8	+ 1 57.9	154 46 3.8	— 25 52 24.6	+ 52.7		
10	. .	. .	30.012	— 50.9	— 1 39.6	29 12 31.4	+ 80 18 52.1	— 35.6		
11	. .	. .	30.017	+ 54.8	+ 1 45.4	152 7 40.5	— 23 14 1.3	+ 46.1		
12	. .	. .	30.019	45.1	— 32 17.3	148 23 25.6	19 29 46.4			
13	. .	70.6	30.023	8.5	+ 1 31.6	148 36 38.2	— 19 42 59.0	38.2		
14	. .	. .	30.025	+ 12.3	— 42.6	52 49 30.5	+ 76 4 8.7	26.2		
15	. .	. .	30.025	— 3.2	+ 1 4.9	139 10 59.1	— 10 17 19.9	31.5		
16	. .	.	30.030	1 43.8	+ 1 34.4	149 19 49.0	— 20 26 9.8	+ 30.2		
17	74.0	69.5	30.032	1 38.1	— 3 25.7	14 59 56.4	+ 66 6 17.1	— 19.9		
18	. .	. .	30.034	2 15.2	+ 1 44.6	151 49 30.6	— 22 55 51.4	+ 24.8		
19	. .	. .	30.038	36.1	1 49.6	152 56 12.5	— 24 2 33.3	+ 22.0		
20										
21	71.5	76.5	29.996	2 20.6	14.5	106 3 3.1	+ 22 50 36.1		D.	
22	72.0	77.7	. .	— 1 53.0	13.3	105 43 21.3	+ 23 26 2.4			
23	. .	. .	. .	+ 1 37.2	12.8	105 11 52.3				
24										
25	72.7	67.3	. .	+ 22.5	1 19.8	145 16 40.1	— 16 22 40.8			
26	. .	. .	. .	— 17.5	+ 1 19.7	145 16 0.0				
27	72.5	64.3	30.043	+ 1 39.1	— 49 12.7	148 57 22.8	— 20 19 50.7			Through clouds.
28	. .	. .	. .	— 52.8	— 49 26.7	149 29 36.9				Recorded 32.694r.
29										
30	. .	. .	30.023	+ 1 55.3	+ 13.2	105 42 10.9	+ 23 27 12.7		N.	
31	72.8	83.5	. .	29.9	12.7	105 10 42.0				
32	. .	. .	. .	+ 19.0	+ 1 12.6	322 31 28.3	88 34 52.4	— 68.9		
33	74.0	74.3	. .	— 10.2	— 1 12.6	37 28 38.0	88 34 58.8			
34										
35	73.0	69.2	. .	— 51.2	— 3 17.0	15 40 51.4	+ 66 47 12.2	— 58.7		Well defined.
36	. .	. .	. .	+ 2 53.3	+ 2 5.7	155 59 57.4	— 27 6 18.2	+ 80.0		
37	. .	. .	. .	— 49.9	1 55.4	154 6 4.4	25 12 25.2	78.1		
38	. .	. .	. .	+ 1 59.9	1 55.8	154 8 54.6	25 15 15.4	75.7		
39	. .	. .	. .	2 49.9	+ 1 57.2	154 24 47.1	— 25 31 7.9	74.9		
40	. .	. .	. .	+ 1 31.1	— 40.8	54 10 51.9	+ 74 42 47.3	50.3		
41	. .	. .	. .	— 1 27.9	+ 40.8	305 49 13.4	74 42 52.7			Rather doubtful.
42	. .	. .	. .	+ 18.9	— 54.9	45 49 28.3	+ 83 4 10.9	47.8		
43	72.0	66.2	. .	— 1 32.6	+ 1 19.9	145 14 48.2	— 16 20 48.8			
44	. .	. .	. .	— 2 12.9	+ 1 19.9	145 14 7.9				
45	. .	. .	. .	+ 3.4	— 37.5	56 34 28.3	+ 72 19 10.9	42.9		
46	. .	. .	. .	— 2.3	+ 37.5	303 25 35.7	+ 72 19 14.9			Good observation.
47	. .	. .	. .	— 3 3.1	2 10.6	156 39 8.4	— 27 45 29.2	57.9		
48	. .	. .	. .	+ 38.5	1 37.0	149 42 15.8	20 48 36.6	52.9		
49	70.2	64.0	. .	+ 1 59.0	4 27.3	168 21 27.0	39 27 47.8	53.1		
50	. .	. .	. .	— 2 16.3	1 50.0	152 44 33.7	23 50 54.5	46.5		
51	. .	. .	. .	— 31.5	2 3.9	155 26 32.4	26 32 53.2	45.1		
52	. .	. .	. .	+ 59.3	2 27.6	159 3 28.7	30 9 49.5	42.1		
53	. .	. .	. .	— 3 23.1	+ 2 27.1	158 59 5.8	30 5 26.6	42.1		
54	. .	. .	. .	+ 39.2	— 2 1.9	204 58 39.5	26 7 41.2	+ 37.1		
55	. .	. .	. .	— 43.4	+ 2 1.9	155 1 20.0	26 7 40.8			Somewhat blurred.
56	66.5	60.9	. .	+ 2 7.1	2 46.3	161 14 57.1	32 21 17.9	— 14.3		
57	. .	. .	. .	+ 3 12.6	2 46.5	161 16 2.8	32 22 23.6	17.2		
58	. .	. .	. .	— 18.6	+ 2 44.6	161 2 27.1	32 8 47.9	— 21.0		
59	66.0	59.6	. .	+ 1 14.9	— 32 28.1	146 43 47.7	— 17 50 8.5			
60										
61	73.0	85.7	29.963	— 2 7.2	+ 16.8	110 3 11.1	+ 18 50 28.1		Ha.	
62	75.5	85.1	. .	+ 59.0	14.1	105 41 16.3	23 12 22.9			
63	76.5	86.5	. .	27.3	12.7	105 10 41.2	+ 23 27 13.5			
64	. .	. .	. .	+ 1 53.1	13.2	105 42 10.3				
65	78.0	86.0	. .	— 33.8	+ 1 19.4	145 25 43.0	— 16 32 3.8	+ 23.8		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
June 21	1	*α* Canis Minoris		1	V.	123 19 60.1	61.0	55.9	56.6	56.9	60.2	58.45	31.801	.805	30.310
	2	Nadir 14h. 35m.		3		269 59 60.3	60.2	57.9	57.1	57.6	61.0	59.02*d*	29.922	.932	
	3	Anon. 14h. 53m. 7s.	8.0	1	V.	84 59 60.4	61.9	61.0	60.8	59.4	65.0	61.42	37.443	.454	30.350
	4	Jupiter S. L.		3	I, V, IX.	145 14 59.8	61.9	57.1	56.5	55.6	59.7	58.43	34.682	.694	
	5	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	35.950	.963	
	6	5 Serpentis	6.0	5	III–VII.	126 34 61.7	63.0	59.0	58.2	57.5	61.6	60.17	27.901	.908	30.354
	7	O. Arg. S. 14264	8.5	5	III–VII.	150 24 61.2	62.4	61.0	60.0	56.9	59.1	60.10	35.485	.497	
	8	40 Libræ	6.0	1	V.	158 14 60.6	64.0	61.9	60.0	56.5	59.3	60.38	37.499	.507	
	9	*η* Libræ	7.0	5	III–VII.	144 4 61.0	62.8	59.3	59.0	57.5	60.1	59.95	26.833	.840	
	10	B. A. C. 5240	8.0	1	V.	158 19 60.9	64.1	61.6	60.9	56.3	59.8	60.60	30.678	.681	
	11	B. A. C. 5308	7.0	5	III–VII.	157 39 62.0	65.0	62.2	62.8	58.4	61.1	61.92	36.579	.588	30.360
	12	*σ* Scorpii	6.0	5	III–VII.	154 9 62.2	65.2	63.0	61.3	58.4	61.1	61.87	34.768	.774	
	13	*α* Scorpii		3	V, VIII, IX.	154 59 60.7	63.0	60.2	60.2	56.3	61.0	60.23	31.370	.397	30.358
	14	Venus		3	V, VII, IX.	105 34 62.0	70.1	64.6	66.5	65.1	67.0	65.88	29.917	.912	30.326
22	15	Sun S. L.		2	I, III.	105 44 59.9	65.8	60.0	62.0	60.3	62.7	61.78	35.116	.124	30.310
	16	Sun N. L.		1	VIII.	105 9 61.0	68.1	61.2	63.0	60.5	64.1	62.98	28.490	.487	
	17	*α* Canis Majoris		5	I–IX.	145 24 63.1	66.9	61.0	62.0	58.9	63.3	62.53	31.239	.263	30.300
	18	Nadir 14h. 45m.		3		269 59 63.0	65.3	62.5	62.5	59.9	65.3	63.08	30.107	.122	
	19	Jupiter S. L.		3	I, V, IX.	145 14 60.0	64.0	59.3	57.0	56.3	60.9	59.58	36.261	.287	
	20	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	37.600	.608	30.168
	21	*ι* Draconis		3	V, VII, IX.	69 29 61.7	63.2	64.3	62.9	61.2	66.7	63.33	35.277	.238	
	22	Anon. 15h. 45m. 27s.		1	V.	150 29 62.0	65.0	63.7	62.0	58.5	61.5	62.12	38.061	.075	30.158
	23	B. A. C. 5487		1	V.	157 49 58.0	62.4	59.8	58.4	54.4	56.7	58.28	29.774	.777	
	24	Anon. 16h. 34m. 5s.		1	IX.	167 29 59.0	62.5	59.8	60.6	56.0	58.1	59.33	29.159	.215	30.156
	25	Anon. 16h. 56m. 17s.		5	I–IX.	149 9 58.7	61.6	59.7	59.0	54.5	57.6	58.52	29.815	.828	
	26	Anon. 17h. 0m. 12s.		2	VI, IX.	159 4 57.8	61.1	59.0	58.4	53.8	57.0	57.85	31.122	.154	
	27	Lacaille 7268		1	VIII.	163 19 59.8	65.1	63.0	61.6	57.0	61.6	61.35	21.455	.486	30.150
	28	B. A. C. 6029		1	V.	163 29 57.9	61.5	59.8	58.2	55.0	58.5	58.48	18.618	.622	
	29	B. A. C. 6043		1	VII.	" " "	"	"	"	"	"	"	23.292	.318	
	30	35 Draconis		3	VII–IX.	51 54 57.7	62.2	61.2	62.1	57.0	62.3	60.42	28.963	.841	
	31	15 Sagittarii		3	II, IV, VI.	149 34 56.0	60.8	58.0	58.7	53.0	56.1	57.10	24.338	.357	30.140
	32	17 Sagittarii		2	VII, IX.	" " "	"	"	"	"	"	"	45.034	.065	
	33	*α* Lyræ		5	I–IX.	90 14 60.2	64.6	61.6	61.2	57.4	63.3	61.38	31.990	.981	
	34	Nadir 18h. 50m.		5		269 59 60.4	62.6	60.7	61.7	58.2	62.1	60.95	29.968	.978	
23	35	Sun N. L.		2	I, III.	105 9 57.0	62.7	56.0	57.2	57.2	61.0	58.52	26.769	.757	
	36	Sun S. L.		2	VII, IX.	105 44 55.2	60.9	55.1	56.0	57.2	59.4	57.30	33.374	.374	30.112
24	37	Sun S. L.		4	I–IV.	105 44 60.1	66.9	61.0	60.8	62.4	65.3	62.75	31.261	.267	30.132
	38	Sun N. L.		4	VI–IX.	105 14 61.8	67.1	58.0	61.3	59.5	66.5	62.38	34.114	.121	
	39	Nadir 18h. 19m.		3		269 59 62.2	62.1	61.2	58.6	60.1	65.0	61.53	30.086	.096	
	40	*α* Lyræ		5	III–VII.	90 14 61.0	63.4	60.9	58.5	59.4	65.0	61.37	32.036	.043	
	41	Mercury		1	IX.	108 34 59.9	66.0	59.9	59.8	61.7	65.7	62.17	25.884	.872	30.131
25	42	Sun N. L.		2	I, III.	105 14 56.9	62.6	58.0	57.2	59.9	63.6	59.70	30.712	.699	
	43	Sun S. L.		2	VII, IX.	105 44 55.8	62.3	57.0	54.8	59.6	61.8	58.55	27.805	.797	30.111
	44	Nadir 14h. 50m.		4		269 59 59.2	58.6	57.8	54.8	58.3	62.5	58.53	29.855	.891	
	45	Jupiter N. L.		3	II, V, VIII.	145 9 61.1	60.2	58.1	54.5	57.0	62.1	58.83	32.260	.282	30.056
	46	Jupiter S. L.		2	IV, VI.	" " "	"	"	"	"	"	"	30.981	.993	
	47	O. Arg. S. 14511		1	VII.	155 24 62.0	61.3	61.3	63.3	60.0	62.4	61.72	39.149	.173	
	48	O. Arg. S. 14674		1	V.	153 34 60.8	60.6	61.6	56.6	57.8	62.3	60.12	32.826	.831	
	49	*α* Serpentis, (Ref.)		1	IX.	237 59 61.8	60.3	63.4	62.3	62.1	68.9	63.13	33.431	.449	30.076
	50	β^1 Scorpii, (Ref.)		3	II, V, VIII.	211 39 61.0	60.4	63.0	58.4	59.1	65.7	61.27	26.454	.458	30.062
	51	*η* Ursæ Minoris		3	IV, V, VI.	52 49 64.5	60.6	64.0	60.0	60.5	62.4	62.00	29.723	.714	30.065
	52	15 Ophiuchi		5	I–IX.	151 49 59.1	56.4	56.0	51.4	53.2	58.0	55.68	34.414	.437	
	53	*β* Camelopardi, S. P.		3	VII, VI, IV.	9 9 60.0	60.8	61.0	57.0	56.5	59.5	59.13	23.754	.779	
	54	B. A. C. 5782		3	II, IV, VII.	168 9 60.5	58.7	59.7	56.4	54.5	58.5	58.05	31.094	.130	
	55	Anon. 17h. 15m. 3s.		3	III, V, VII.	151 49 60.2	57.3	56.9	52.2	54.7	58.5	56.63	40.664	.671	
	56	Anon. 17h. 29m. 28s.		4	II, IV, VI, IX	149 29 59.4	57.7	57.0	53.1	53.5	57.8	56.42	33.420	.440	30.060
	57	B. A. C. 6032		4	I,III,VII,IX	160 9 60.3	57.8	60.1	55.1	54.2	59.8	57.88	33.138	.175	
	58	B. A. C. 6081		5	I–IX.	149 14 61.0	58.9	58.8	55.0	54.3	59.6	57.93	36.559	.574	
	59	μ^1 Sagittarii		5	I–IX.	149 59 58.8	57.4	58.6	55.7	54.6	58.3	57.23	34.890	.907	
	60	Anon. 18h. 15m. 40s.		1	V.	167 24 60.8	58.6	59.0	56.2	55.4	58.3	58.05	24.153	.170	
	61	Anon. 18h. 18m. 28s.		1	IX.	158 24 62.4	60.0	60.8	58.3	57.2	60.7	59.90	37.696	.727	30.060
	62	Nadir		3		269 59 62.3	60.3	60.1	57.3	58.9	64.0	60.48	30.036	.049	
	63	Anon. 19h. 12m. 51s.		1	VII.	139 4 59.9	59.3	57.5	54.3	55.0	58.6	57.43	30.305	.323	30.054
27	64	Sun S. L.		3	II–IV.	105 49 59.4	63.0	60.2	58.5	59.8	63.4	60.72	28.741	.735	
	65	Sun N. L.		4	VI–IX.	105 19 59.8	62.9	60.4	58.4	60.1	63.6	60.87	31.542	.540	29.963

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	79.0	87.3	29.963	— 57.7	+ 36.0	123 19 36.7	+ 5 34 2.5	+ 42.6	Ha.	
2										
3	74.0	68.2	. .	3 54.7	— 5.0	84 56 1.7	+ 43 57 37.5	53.8		
4	. .	. .	. .	2 28.2	+ 1 20.1	145 13 50.3	— 16 19 51.2			
5	. .	. .	. .	— 3 8.0	1 20.1	145 13 10.5				
6	73.5	67.5	. .	+ 1 4.4	42.2	126 36 46.7	+ 2 16 52.5	57.5		
7	. .	. .	. .	— 2 53.4	1 39.7	150 23 46.4	— 21 30 7.2	58.9		
8	. .	. .	. .	— 3 56.4	2 21.2	158 13 25.1	29 19 45.9	58.2		
9	. .	. .	. .	+ 1 37.9	1 18.6	154 7 56.4	25 14 17.2	55.1		
10	. .	. .	. .	— 22.5	2 22.4	158 22 0.5	29 28 21.3	52.9		
11	72.5	66.1	. .	3 27.6	2 17.5	157 38 51.8	28 45 12.6	48.6		
12	. .	. .	. .	2 30.7	1 57.2	154 9 28.3	25 15 49.1	40.5		
13	72.0	65.3	. .	— 44.9	2 1.8	155 1 17.1	— 26 7 37.9	37.1		
14	73.0	78.9	30.024	+ 3.5	14.2	105 35 23.5	+ 23 18 15.7		D.	Very faint.
15	73.5	78.8	. .	— 2 39.8	13.4	105 42 35.3	+ 23 26 49.5			
16	. .	. .	. .	+ 48.2	12.9	105 11 4.0				
17	74.0	78.6	. .	— 38.8	1 20.4	145 25 44.1	— 16 32 4.9	23.6	N.	
18									D.	
19	. .	. .	. .	3 16.2	1 19.0	145 13 2.3	— 16 19 2.4			Very distinct.
20	74.0	71.4	. .	3 57.6	+ 1 19.0	145 12 20.9				
21	. .	. .	. .	2 43.4	— 21.1	69 26 58.8	+ 59 26 40.4	42.3		r.
22	74.0	70.5	30.000	— 4 13.0	+ 1 38.7	150 27 27.8	— 21 33 48.6	51.0		Recorded 33.061. Reobserved July 13.
23	. .	. .	29.990	+ 6.7	2 17.1	157 52 22.0	28 58 42.8	38.5		
24	73.5	69.5	. .	24.3	4 8.0	167 34 31.6	38 40 52.4	33.1		Very faint; observation uncertain.
25	. .	. .	. .	+ 5.1	1 34.1	149 11 37.5	20 17 58.3	21.3		
26	. .	. .	.984	— 36.7	2 26.1	159 6 47.2	30 13 8.0	20.6		
27	72.7	68.6	.978	+ 4 26.1	3 6.7	163 27 34.1	34 33 54.9	13.5		
28	. .	. .	.970	5 55.6	3 9.1	163 39 3.1	34 45 23.9	1.0		
29	. .	68.0	.969	3 28.4	+ 3 8.7	163 36 35.5	— 34 42 56.3	+ 0.2		
30	. .	68.1	.964	35.2	— 44.2	51 54 51.4	+ 76 58 47.8	— 6.2		
31	72.0	68.0	.962	+ 2 55.6	+ 1 36.0	149 39 28.7	— 20 45 49.5	10.1		
32	. .	. .	.961	— 7 53.3	1 35.3	149 28 39.1	— 20 34 59.9	10.8		
33	. .	67.6	.954	— 1 3.5	0.2	90 13 58.0	+ 38 39 41.2	19.0		
34										
35	. .	. .	30.000	+ 1 41.6	12.5	105 11 52.6	23 26 0.6			
36	78.0	91.3	. .	— 1 45.7	12.9	105 43 24.5				
37	80.5	94.0	. .	39.7	12.9	105 44 35.9	23 24 48.4		Ha.	
38	. .	. .	. .	2 9.1	12.4	105 13 5.6				
39										
40	. .	. .	30.047	— 1 2.5	0.2	90 13 59.0	38 39 40.2	— 19.5		
41	84.0	94.1	29.986	+ 2 8.9	15.3	108 37 26.4	20 16 12.8		D.	
42	. .	. .	. .	— 22.4	12.3	105 14 49.6	+ 23 23 4.4			Tremulous.
43	86.3	95.6	. .	+ 1 8.6	12.9	105 46 20.0				Tremulous.
44										
45	84.0	86.0	. .	— 1 11.9	1 16.4	145 10 3.3	— 16 16 44.3			
46	. .	. .	. .	31.5	1 16.4	145 10 43.7				
47	. .	. .	. .	4 47.9	1 57.9	155 22 11.7	26 28 32.5	+ 63.2		
48	. .	. .	. .	1 29.2	+ 1 49.1	153 35 20.0	— 24 41 40.8	58.4		A brighter star preceding 18 or 20s. and north 5r. 238, giving observed dec. = — 24° 38′ 56″. 4.
49	84.0	84.0	. .	— 1 48.5	— 34.1	237 57 40.5	+ 6 51 19.7	47.5		
50	84.0	82.5	. .	+ 1 50.5	1 28.4	211 40 23.3	— 19 25 57.4	45.7		
51	84.0	82.2	. .	+ 8.5	— 41.5	52 49 29.0	+ 76 4 10.2	23.6		
52	. .	82.0	. .	— 2 19.5	+ 1 41.8	151 49 17.9	— 22 55 38.7	+ 30.0		
53	. .	. .	. .	+ 3 14.5	— 5 23.0	9 7 50.6	+ 60 14 11.4	— 15.4		
54	. .	82.0	. .	— 34.9	+ 4 14.3	168 13 37.4	— 39 19 58.2	+ 20.4		
55	. .	. .	. .	5 34.8	1 41.5	151 46 3.3	22 52 24.1	13.3		Recorded 30r. with note "Perhaps 40r."
56	83.7	82.0	. .	1 48.2	1 32.6	149 29 40.8	20 36 1.6	6.7		Reobserved July 16.
57	. .	. .	. .	1 39.9	2 30.4	160 10 48.3	31 17 9.1	+ 1.0		
58	. .	81.6	. .	3 26.4	1 31.7	149 13 3.2	20 19 24.0	— 3.4		
59	. .	. .	. .	— 2 34.2	1 34.6	149 58 57.6	21 5 18.4	9.5		
60	. .	. .	. .	+ 3 2.2	4 1.2	167 32 1.4	38 38 22.2	13.8		
61	83.5	80.8	. .	— 4 2.6	2 17.3	158 23 14.6	29 29 35.4	15.1		
62										
63	62.7	79.5	. .	— 10.6	1 3.4	139 5 50.2	— 10 12 11.0	— 37.7		
64	. .	. .	30.004	+ 39.7	12.9	105 50 53.3	+ 23 18 30.0		N.	
65	87.0	93.0	. .	— 48.1	+ 12.4	105 19 25.1				

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
June 27	1	Nadir 17h. 30m.		3		269 59 60.2	59.6	60.3	59.3	55.3	60.2	59.15	29.967	.977	
	2	Anon. 18h. 33m. 14s.		1	V.	160 29 59.9	61.9	64.0	61.0	53.8	57.7	59.72	35.947	.956	
	3	Anon. 18h. 34m. 33s.		1	IX.	" " "	"	"	"	"	"	"	17.266	.313	30.164
	4	Victoria		5	I–IX.	137 54 58.9	63.4	61.1	61.3	54.5	57.5	59.45	31.979	.994	30.164
	5	Mercury, centre		5	III–VII.	107 34 60.5	66.0	63.0	63.8	56.0	58.0	61.22	33.342	.354	30.304
	6	Venus, centre		5	III–VII.	105 14 60.8	68.0	63.9	66.0	58.9	61.1	63.12	31.711	.711	30.306
28	7	Sun N. L.		4	I–IV.	105 19 58.5	65.6	62.0	63.0	56.8	58.1	60.67	26.146	.150	
	8	Sun S. L.		4	VI–IX.	105 54 59.4	67.3	62.4	64.8	58.9	58.8	61.93	32.871	.870	
	9	*α* Canis Majoris		5	III–VII.	145 24 59.9	64.3	61.0	61.0	55.0	56.5	59.62	31.184	.203	30.296
	10	*α* Canis Minoris		2	III–V.	123 19 59.9	63.8	60.2	61.6	54.8	57.2	59.58	31.864	.869	30.288
	11	Nadir 16h. 5m.		5		269 59 60.2	62.9	61.5	62.5	56.0	59.2	60.38	29.957	.967	
	12	Mercury		5	I–IX.	107 14 60.2	67.6	64.0	62.8	60.1	60.0	62.45	33.920	.918	30.303
29	13	Sun S. L.		1	III.	105 54 60.0	67.5	62.4	63.7	60.2	61.1	62.48	26.525	.523	
	14	Sun N. L.		1	IX.	105 24 59.7	68.3	63.1	63.2	58.9	61.5	62.45	29.401	.397	30.280
	15	Nadir 16h. 20m.		4		269 59 58.0	63.4	60.0	59.9	57.5	59.0	59.63	29.912	.922	
	16	*α* Camelopardi, S. P.		5	VII–III.	14 59 58.0	64.2	63.4	62.2	56.7	56.0	60.08	23.495	.520	30.216
	17	O. Arg, S. 16710		1	V.	159 14 59.3	64.3	63.5	62.5	56.8	57.5	60.65	30.049	.063	30.213
	18	O. Arg. S. 17016		3	III, V, VII.	155 44 60.1	63.3	62.6	60.7	56.7	57.9	60.22	34.602	.613	
	19	B. A. C. 6017		3	III, V, VII.	159 19 60.1	65.8	65.0	63.3	58.0	59.0	61.87	22.643	.651	
	20	*α* Lyræ		5	I–IX.	90 14 59.0	66.7	62.5	63.6	57.8	61.2	61.80	32.057	.051	30.215
	21	Victoria		1	V.	137 39 58.6	66.2	61.4	64.0	57.8	59.8	61.30	26.782	.786	30.208
30	22	Mercury, centre		5	III–VII.	106 34 58.5	64.5	60.9	60.0	59.4	60.0	60.55	30.011	.020	29.994
	23	Venus, centre		1	V.	105 14 60.0	65.3	59.7	60.8	60.6	62.1	61.42	33.620	.624	29.990
July 2	24	Sun S. L.		2	I, III.	106 9 56.6	58.1	56.6	53.7	55.0	59.4	56.57	31.673	.657	
	25	Sun N. L.		2	VII, IX.	105 39 59.5	64.8	59.0	56.9	62.1	63.7	61.00	34.520	.519	29.875
	26	Nadir 9h.		3		269 59 59.0	57.2	55.2	50.6	55.9	60.2	56.36	29.760	.770	
	27	O. Arg. S. 15566	7.0	5	I–IX.	151 39 58.4	60.0	57.8	54.0	54.0	58.0	57.03	30.545	.562	29.885
	28	B. A. C. 5571	7.0	5	I–IX.	153 4 58.5	57.8	57.4	54.0	54.4	57.6	56.62	31.928	.947	
	29	Weisse XVI, 854	9.0	4	I, III, VII, IX.	134 24 59.4	62.2	58.4	54.6	56.5	59.9	58.50	27.900	.909	29.889
	30	B. A. C. 5730		3	III, V, VII.	152 54 62.5	62.3	61.1	58.7	56.6	61.0	60.37	31.077	.096	
	31	Anon. 17h. 5m. 9s.		1	V.	168 29 62.2	63.1	61.9	59.4	56.9	60.0	60.58	38.765	.768	
	32	Anon. 17h. 16m. 14s.		1	V.	163 19 63.7	65.0	63.6	59.8	59.4	63.4	62.48	36.663	.666	
	33	Lacaille 7268		1	IX.	" " "	"	"	"	"	"	"	21.332	.381	
	34	B. A. C. 1706, S. P.		3	VI–IV.	23 49 62.5	66.1	65.2	63.2	60.9	63.8	63.62	25.557	.574	
	35	O. Arg. S. 17016		3	III–VII.	155 44 61.3	63.2	60.4	57.0	55.6	60.1	59.60	34.418	.435	29.879
	36	B. A. C. 6016		1	IX.	160 29 61.4	63.0	62.9	57.9	55.9	60.7	60.30	29.636	.670	
	37	O. Arg. S. 17379		1	V.	155 29 61.6	63.0	59.1	57.6	55.2	59.7	59.37	33.373	.387	
	38	35 Draconis		3	V–VII.	51 54 63.0	66.8	65.9	63.6	61.6	66.9	64.63	29.088	.076	29.879
	39	*α* Lyræ		5	I–IX.	90 14 63.6	66.6	63.9	61.1	60.6	65.9	63.62	32.190	.187	
	40	Anon. 18h. 47m. 28s.		3	III–VII.	168 29 64.0	65.7	65.2	63.3	59.1	62.5	63.30	30.615	.627	
	41	Lacaille 7932		3	III–VII.	" " "	"	"	"	"	"	"	26.720	.731	
	42	Victoria		1	V.	137 24 64.3	67.0	63.1	60.4	59.3	62.5	62.77	30.390	.403	
	43	Eunomia		1	IX.	152 19 65.4	67.4	66.1	63.8	61.5	65.0	64.87	27.053	.088	29.584
	44	Nadir 20h.		6		269 59 64.7	67.8	65.0	64.4	61.7	66.2	64.97	30.164	.177	
4	45	*α* Scorpii		5	III–VII.	154 59 60.6	61.1	59.9	58.1	53.0	57.4	58.35	31.185	.206	30.042
	46	Juno	9.8	1	V.	133 4 60.6	61.9	60.5	59.4	54.4	60.3	59.52	32.960	.970	
	47	O. Arg. S. 16235	7.8	1	V.	149 14 61.0	60.5	62.0	59.8	53.5	56.5	58.89	28.769	.772	
	48	Victoria		1	IX.	137 14 60.6	64.7	61.5	61.2	55.3	57.9	60.20	30.880	.893	30.046
	49	Nadir 19h. 30m.		3		269 59 62.2	64.0	63.8	64.7	57.2	61.6	62.25	30.070	.082	
	50	Eunomia		1	IX.	152 14 63.1	66.2	66.1	65.5	57.4	60.8	63.18	25.191	.229	30.047
	51	Mercury		5	III–VII.	105 34 63.4	69.1	65.1	65.7	62.7	64.1	65.02	29.978	.986	30.161
5	52	Sun N. L.		4	I–IV.	105 54 60.2	67.0	61.5	61.6	60.7	60.8	61.97	32.840	.830	30.160
	53	Sun S. L.		4	VI–IX.	106 24 60.8	66.4	61.5	60.7	60.1	59.8	61.55	29.827	.825	
	54	Nadir 8h. 0m.		3		269 59 60.1	59.7	58.4	56.7	56.3	59.8	58.50	29.891	.901	
	55	Weisse XIV, 1149		1	V.	140 9 61.6	65.1	61.9	59.5	58.0	59.0	60.85	32.522	.529	30.121
	56	Anon. 15h. 25m. 0s.		2	I, VII.	137 59 61.3	65.0	61.5	58.2	58.3	59.7	60.67	30.053	.072	
	57	Nadir 15h. 45m.		3		269 59 60.9	63.7	62.2	59.6	59.2	62.0	61.27*d*	29.992	.002	
	58	O. Arg. S. 15388		1	V.	158 44 58.8	63.1	62.5	58.9	55.8	56.3	59.23	33.838	.843	
	59	B. A. C. 5476		5	I–IX.	158 29 58.0	62.1	61.6	58.0	55.0	55.6	58.38	34.220	.251	30.132
	60	Anon. 16h. 35m. 41s.		5	I–IX.	149 14 57.6	60.6	60.8	57.2	54.1	54.7	57.50	23.644	.656	
	61	Weisse XVI, 845		5	I–IX.	137 29 60.8	65.0	61.8	58.0	58.1	58.2	60.32	29.130	.150	30.130
	62	Anon. 16h. 56m. 18s.		1	IX.	157 34 61.3	64.6	64.1	60.0	58.4	58.7	61.18	30.742	.771	
	63	*α* Herculis, (Ref.)		2	V, VII.	245 39 59.2	62.5	62.9	61.1	58.5	62.4	61.10	30.412	.426	
	64	B. A. C. 5892		5	I–IX.	160 9 58.9	62.3	63.4	58.7	55.1	56.7	59.18	35.670	.688	30.127
	65	B. A. C. 5946		3	III–VII.	156 49 60.4	63.6	62.5	59.0	57.6	58.2	60.22	31.839	.849	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ″ ′	″		
1									N.	
2	. .	. .	30.004	— 3 6.5	+ 2 39.0	160 29 32.2	— 31 35 53.0	— 21.8		
3	72.7	63.3	. .	+ 6 37.6	2 40.4	160 39 17.7	31 45 38.5	— 22.4		Faint and uncertain.
4	71.0	62.5	. .	— 1 2.3	1 3.1	137 55 0.2	— 9 1 21.0			
5	73.0	73.5	29.955	1 46.5	15.3	107 33 30.0	+ 21 20 9.2		Ha.	
6	74.5	75.1	. .	— 55.0	14.0	105 14 22.1	23 39 17.2			
7	. .	. .	. .	+ 1 59.2	13.2	105 22 13.0	+ 23 15 40.6			
8	. .	. .	. .	— 1 31.3	13.7	105 53 44.3				
9	75.5	75.5	. .	39.1	1 20.9	145 25 41.4	— 16 32 2.2	+ 22.3		
10	76.0	78.3	. .	1 0.0	35.7	123 19 35.2	+ 5 34 4.0	+ 42.1		
11										
12	73.7	79.2	. .	— 2 4.2	14.9	107 13 13.1	21 40 26.1		D.	
13	. .	. .	29.950	+ 1 47.4	13.5	105 57 3.3	23 12 21.2			
14	75.5	81.8	. .	17.3	+ 13.0	105 25 32.7				
15										
16	73.0	67.0	. .	+ 3 21.5	— 3 27.3	14 59 54.2	+ 66 6 15.0	— 17.7		
17	72.5	66.0	. .	— 3.5	+ 2 28.6	159 17 25.7	— 30 23 46.5	+ 13.7		
18	. .	. .	. .	— 2 26.1	2 5.1	155 44 39.2	26 51 0.0	6.6		
19	. .	. .	. .	+ 3 48.7	2 29.9	159 26 20.4	— 30 32 41.2	+ 2.4		
20	72.0	65.0	. .	— 1 5.8	0.2	90 13 56.2	+ 38 39 43.0	— 21.2		
21	71.0	64.3	. .	+ 1 39.1	1 2.5	137 42 42.9	— 8 49 3.7			
22	76.0	85.5	29.934	— 2.7	14.0	106 35 11.8	+ 22 18 27.4		Ha.	
23	77.5	87.2	. .	1 55.6	13.5	105 13 19.3	23 40 19.9			
24	. .	. .	29.886	55.5	13.0	106 9 14.0	+ 23 0 8.0		D.	Through clouds.
25	83.3	97.1	. .	2 25.2	12.6	105 37 48.4				
26										Image of wire indistinct and unsteady.
27	80.7	78.8	30.018	17.0	1 41.2	151 41 21.2	— 22 47 42.0	+ 39.3		
28	. .	. .	. .	— 1 0.4	1 47.5	153 5 43.7	24 12 4.5	31.7		
29	80.5	77.6	. .	+ 1 6.1	53.8	134 26 58.4	5 33 19.2	23.4		
30	. .	. .	. .	— 33.8	1 47.0	152 56 13.5	24 2 34.3	22.2		
31	. .	. .	. .	4 34.2	4 21.2	168 29 47.5	39 36 8.3	19.9		
32	. .	. .	. .	— 3 28.3	3 0.8	163 19 34.9	34 25 55.7	14.2		
33	. .	. .	. .	+ 4 30.6	+ 3 2.2	163 27 35.2	— 34 33 56.0	+ 14.2		
34	. .	. .	. .	+ 2 19.2	— 2 3.7	23 50 19.1	+ 74 56 39.8	— 2.8		Probably read wrong index, making an error of $-0r.250=+7''.8$.
35	80.0	76.0	. .	— 2 18.4	+ 2 1.4	155 44 42.6	— 26 51 3.4	+ 6.6		
36	. .	. .	. .	+ 10.9	2 34.2	160 32 45.4	31 39 6.2	+ 2.7		
37	. .	. .	. .	— 1 45.6	+ 2 2.9	156 0 16.6	— 27 6 37.4	— 1.5		
38	79.3	75.5	. .	+ 29.5	— 43.2	51 54 50.9	+ 76 58 48.3	9.5		
39	. .	74.0	. .	— 1 8.0	+ 0.2	90 13 55.8	+ 38 39 43.4	22.1		
40	. .	. .	. .	— 19.1	4 24.0	168 34 8.2	— 39 40 29.0	28.0		
41	. .	. .	. .	+ 1 43.0	4 24.8	168 36 11.1	39 42 31.9	— 29.1		
42	. .	. .	. .	— 12.1	1 0.2	137 25 50.8	8 32 11.6			
43	78.0	72.3	. .	+ 1 31.8	1 45.5	152 23 22.1	23 29 42.9			
44										
45	75.0	69.4	30.010	— 37.5	1 59.5	155 1 20.3	26 7 41.1	+ 37.4	N.	
46	. .	. .	. .	— 1 32.8	52.4	133 4 19.1	4 10 39.9			
47	. .	. .	. .	+ 38.8	1 34.1	149 17 11.7	20 23 32.5	22.2		
48	72.0	65.7	. .	— 27.7	1 1.1	137 15 33.6	8 21 54.4			
49										
50	71.7	65.0	. .	+ 2 29.8	1 47.3	152 19 20.2	— 23 25 41.0			
51	76.4	81.7	29.949	— 1.2	13.4	105 35 17.2	+ 23 18 22.0			
52	78.0	83.8	. .	— 1 30.3	13.3	105 53 44.9	+ 22 44 7.2		Ha.	
53	. .	. .	. .	+ 3.9	13.8	106 25 19.2				
54										
55	78.0	75.3	29.961	— 1 20.5	1 6.5	140 9 46.8	— 11 16 7.6	63.7	D.	Faint and uncertain.
56	. .	74.0	. .	3.5	1 1.8	138 0 58.9	9 7 19.7	55.1		
57										
58	. .	. .	. .	2 1.6	2 22.3	158 45 19.9	29 51 40.7	44.9		
59	77.0	72.4	. .	— 2 14.4	2 20.6	158 30 4.5	29 36 25.3	39.8		
60	. .	. .	. .	+ 3 17.6	1 33.9	149 19 49.0	20 26 9.8	30.1		
61	76.5	72.5	. .	+ 25.4	1 1.0	137 31 26.7	8 37 47.5	24.0		
62	. .	. .	. .	— 25.4	+ 2 14.7	157 36 50.4	— 28 43 11.2	22.6		
63	. .	. .	. .	14.6	— 25.3	245 39 21.2	+ 14 33 0.4	10.4		
64	76.0	71.3	. .	2 59.4	+ 2 33.5	160 9 33.2	— 31 15 54.0	12.3		
65	. .	. .	. .	— 59.2	+ 2 10.1	156 51 11.1	— 27 57 31.9	+ 7.4		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
1864.															
July 5	1	Anon. 17h. 35m. 23s.	. .	3	III–VII.	160 4 61.6	65.3	65.6	62.3	58.9	59.9	62.27	32.896	.909	. .
	2	B. A. C. 6023 . .	. .	5	I–IX.	152 59 61.0	64.4	65.4	61.3	58.0	59.8	61.65	27.579	.595	. .
	3	Anon. 17h. 49m. 54s.	. .	5	III–VII.	167 19 58.6	64.6	64.2	61.7	58.3	57.4	60.80	24.667	.676	. .
	4	λ Sagittarii	. .	5	I–IX.	154 24 58.5	62.0	62.0	57.0	56.1	56.5	58.68	37.286	.315	30.126
	5	α Lyræ	. .	4	I, III, V, IX.	90 14 59.6	63.9	62.7	59.3	58.3	59.9	60.57	32.078	.070	. .
	6	ζ Sagittarii	. .	5	I–IX.	158 54 60.8	65.6	65.7	63.1	56.7	59.3	61.87	29.461	.486	. .
	7	Victoria	. .	1	V.	137 9 61.4	65.1	62.4	59.8	57.5	58.3	60.75	30.364	.378	30.113
	8	Nadir 19h. 25m. . .	. .	3	. .	269 59 61.4	66.6	65.4	63.7	60.0	63.5	63.40	30.060	.070	. .
	9	Eunomia	. .	1	V.	152 14 59.1	64.0	63.0	60.7	56.1	58.0	60.15	28.990	.001	30.106
6	10	Sun S. L.	. .	4	I–IV.	106 29 57.5	62.7	60.5	57.0	57.5	58.0	58.87	27.741	.729	. .
	11	Sun N. L.	. .	4	VI–IX.	105 59 60.2	65.5	62.9	60.8	59.8	61.0	61.70	30.656	.654	30.068
	12	Nadir 7h. 15m. . .	. .	3	. .	269 59 59.4	58.9	59.9	56.2	55.3	58.7	58.07	29.887	.897	. .
	13	Nadir 7h. 15m. . .	. .	0	. .	269 59 58.5	59.9	60.0	57.2	56.4	59.8	58.63	. .	. .	. .
	14	B. A. C. 5110 . .	7.5	1	V.	154 9 59.0	57.4	58.5	51.4	54.1	56.4	56.13	25.860	.865	. .
	15	Anon. 15h. 28m. 2s.	9.5	1	V.	152 34 62.4	60.4	62.0	55.1	56.8	60.1	59.47	26.799	.803	29.985
	16	O. Arg. S. 15195 .	7.3	5	III–VII.	152 44 63.2	61.5	62.9	57.1	57.6	60.9	60.53	34.157	.177	. .
	17	O. Arg. S 15271 .	8.7	1	V.	158 44 63.4	62.5	64.1	58.5	58.2	59.8	61.08	29.875	.881	. .
	18	O. Arg. S. 15403 .	7.2	4	VI–IX.	152 14 62.7	61.5	62.9	56.4	57.8	60.4	60.28	25.302	.328	. .
	19	ρ Ophiuchi, (south *)	6.2	3	I, V, IX.	151 59 62.9	61.6	63.1	57.1	58.7	61.5	60.82	30.281	.312	. .
	20	ρ Ophiuchi, (north *)	6.8	2	III–VII.	" " "	"	"	"	"	"	"	30.443	.460	29.990
	21	α Scorpii	. .	1	V.	154 59 62.1	61.0	60.9	55.5	57.2	60.0	59.45	31.137	.154	. .
	22	B. A. C. 5571 . .	6.7	5	III–VII.	153 4 62.5	60.5	62.7	56.6	57.1	60.7	60.02	31.997	.011	. .
	23	Juno	10.0	1	VIII.	133 9 62.4	62.5	61.1	56.5	57.9	62.3	60.45	34.161	.182	. .
	24	ε Ursæ Minoris . .	. .	1	V.	46 39 61.4	60.0	64.1	58.4	59.9	62.1	60.98	32.001	.013	29.988
	25	Nadir 17h. 20m. . .	. .	4	. .	269 59 62.1	60.0	61.1	56.7	58.5	61.8	60.03	29.960	.970	. .
	26	Anon. 17h. 50m. 31s.	9.0	1	V.	160 14 62.1	60.5	62.7	55.8	55.7	58.6	59.23	26.950	.959	. .
	27	δ Ursæ Minoris . .	. .	5	1–5.	42 19 61.4	62.8	65.5	60.8	60.4	63.2	62.35	33.403	.414	29.982
	28	α Lyræ	. .	4	I, V, VII, IX.	90 14 63.0	63.5	63.1	58.4	59.8	64.3	62.02	32.122	.118	. .
	29	Victoria	. .	5	III–VII.	137 4 62.9	63.4	62.1	57.5	57.9	60.6	60.73	29.444	.456	29.976
	30	Eunomia	. .	5	I–IX.	152 14 62.5	62.7	64.1	58.8	57.9	61.5	61.25	32.935	.955	. .
	31	Mercury	. .	5	I–IX.	105 14 62.3	67.6	63.7	62.0	63.5	66.8	64.32	27.240	.246	29.928
7	32	Sun N. L.	. .	1	VI.	106 4 60.2	65.9	61.8	59.3	61.5	64.6	62.22	27.764	.768	29.925
	33	Mercury	. .	5	I–IX.	105 9 61.7	64.5	62.5	59.2	60.9	64.6	62.23	28.844	.838	. .
8	34	Sun N. L.	. .	4	I–IV.	106 14 60.4	63.1	60.8	56.6	60.2	62.0	60.52	33.705	.691	30.027
	35	Sun S. L.	. .	4	VI–IX.	106 44 60.3	63.0	60.9	55.4	58.6	61.8	60.00	30.872	.874	. .
	36	Nadir 7h. 30m. . .	. .	4	. .	269 59 60.9	57.5	58.9	54.0	56.5	62.3	58.35	29.887	.896	. .
	37	O. Arg. S. 15403 .	7.0	1	V.	152 14 60.7	59.7	61.4	55.0	55.6	59.8	58.70	25.268	.285	30.133
	38	O. Arg. S. 15566 .	. .	3	IV–VI.	151 39 61.8	60.5	62.7	55.8	56.0	60.1	59.48	30.625	.630	. .
	39	α Scorpii	. .	3	V–VII.	154 59 62.2	60.7	61.9	55.4	56.8	60.7	59.62	31.158	.178	. .
	40	O. Arg. S. 15784 .	7.2	1	V.	151 29 62.2	60.9	62.6	56.9	56.5	59.9	59.83	32.182	.199	. .
	41	Anon. 16h. 35m. 40s.	. .	1	V.	149 19 63.2	61.4	63.8	57.0	57.0	60.2	60.43	33.301	.317	. .
	42	B. A. C. 6310 . .	7.5	5	III–VII.	159 49 63.2	61.5	65.5	60.3	56.0	59.8	61.05	30.233	.255	30.167
	43	α Lyræ	. .	5	I–IX.	90 14 60.6	60.4	62.2	56.5	56.5	61.8	59.66	32.060	.054	. .
	44	B. A. C. 6382 . .	. .	3	IV–VI.	157 14 61.5	60.1	61.8	57.3	54.8	58.2	58.95	26.867	.875	. .
	45	ν^1 Sagittarii . . .	. .	3	IV–VI.	151 44 61.1	59.6	62.9	57.1	55.3	58.9	59.15	27.547	.554	. .
	46	Victoria	8.0	1	V.	136 59 61.0	62.5	61.1	56.5	56.1	59.0	59.37	35.952	.961	30.164
	47	Nadir	. .	3	. .	269 59 61.1	62.0	61.7	59.6	56.9	61.9	60.53	29.963	.973	. .
	48	Mercury	. .	2	V, VII.	105 4 60.8	66.1	63.6	61.7	60.5	64.9	62.93	25.730	.728	30.281
9	49	Sun S. L.	. .	2	I, III.	106 49 61.2	67.3	63.7	59.0	60.0	62.0	62.20	26.552	.538	. .
	50	Sun N. L.	. .	2	VI, VIII.	106 19 62.4	66.2	63.9	61.6	62.5	63.4	63.33	29.345	.332	30.276
	51	Nadir 11h.	. .	2	. .	269 59 60.9	59.0	59.0	54.0	57.0	61.4	58.55	29.878	.888	. .
	52	O. Arg. S. 15660 . .	. .	5	III–VII.	153 4 61.8	62.2	63.7	59.7	56.9	60.3	60.77	29.183	.203	30.242
	53	B. A. C. 5641 . .	. .	5	I–IX.	153 29 61.7	63.8	64.1	58.5	55.2	59.5	60.47	34.420	.443	. .
	54	Anon. 16h. 51m. 11s.	9.0	5	I–IX.	132 59 61.0	64.7	62.1	59.6	56.9	62.1	61.07	29.031	.046	. .
	55	B. A. C. 5724 . .	6.0	3	V–IX.	" " "	"	"	"	"	"	"	42.080	.097	. .
	56	B. A. C. 5782 . .	. .	5	I–IX.	168 9 62.6	63.6	65.3	62.2	57.1	59.4	61.70	31.297	.333	. .
	57	B. A. C. 5833 . .	. .	5	I–IX.	160 4 61.9	64.0	65.1	60.4	56.7	60.0	61.35	32.236	.268	30.238
	58	B. A. C. 5892 . .	. .	2	IV, VI.	160 9 61.8	63.9	65.5	60.4	55.6	59.9	61.18	35.678	.682	. .
	59	B. A. C. 5943 . .	. .	5	I–IX.	157 14 61.8	63.1	64.0	59.7	56.5	59.0	60.68	34.992	35.016	. .
	60	B. A. C. 6046 . .	. .	3	III–VII.	163 14 59.9	61.4	62.5	58.4	55.1	57.5	59.13	26.970	.986	30.232
	61	Anon. 17h. 55m. 44s.	. .	5	I–IX.	151 44 58.0	61.0	61.7	57.4	54.1	57.0	58.20	35.591	.608	. .
	62	μ^1 Sagittarii	. .	5	I–IX.	149 59 57.8	59.8	59.9	57.3	53.1	55.0	57.15	34.875	.891	30.232
	63	B. A. C. 2059, S.P.	. .	2	5, 1.	28 34 55.3	60.3	62.0	60.4	55.2	57.0	58.37	25.547	.554	. .
	64	α Lyræ	. .	5	I–IX.	90 14 44.1	45.9	44.8	43.0	39.3	43.4	43.42	31.563	.549	30.223
	65	Nadir 19h. 15m. . .	. .	3	. .	269 59 60.4	62.1	61.9	61.0	57.0	61.2	60.60	29.953	.963	. .

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.961	— 1 32.4	+ 2 33.2	160 6 3.0	— 31 12 23.8	+ 5.2	D.	
2	. .	70.6	. .	+ 1 14.1	1 49.7	153 3 5.4	24 9 26.2	+ 1.4		
3	. .	. .	. .	+ 2 45.6	4 4.9	167 26 51.3	38 33 12.1	— 0.8		
4	75.0	69.8	. .	— 3 50.4	1 56.4	154 23 4.6	— 25 29 25.4	15.5		
5	. .	. .	. .	— 1 6.1	0.2	90 13 54.6	+ 38 39 44.6	23.0		
6	. .	. .	. .	+ 14.9	2 24.9	158 57 41.6	— 30 4 2.4	— 30.9		
7	74.0	68.0	. .	— 13.1	1 0.7	137 10 48.3	8 17 9.1			
8										
9	73.0	66.8	. .	+ 30.1	1 47.0	152 17 17.2	— 23 23 38.0			
10	. .	. .	29.959	+ 1 9.9	13.7	106 31 22.4 }	+ 22 38 1.5		N.	
11	77.0	89.5	. .	— 21.8	13.2	105 59 53.1 }				
12										
13									D.	This reading not used.
14	. .	. .	29.969	+ 2 8.6	1 53.1	154 13 57.8	— 25 20 18.6	+ 59.6	N.	
15	80.5	79.4	. .	+ 1 39.2	1 45.6	152 38 24.2	23 44 45.0	58.1		
16	. .	. .	. .	— 2 11.8	1 46.2	152 44 34.9	23 50 55.7	46.7		
17	. .	. .	. .	+ 2.8	2 20.5	158 47 24.3	29 53 45.1	46.9		
18	. .	. .	. .	+ 2 25.4	1 44.4	152 19 10.0	23 25 30.8	43.2		
19	. .	. .	. .	— 10.8	1 43.2	152 1 33.2	23 7 54.0	38.4		
20	80.0	77.9	. .	15.4	1 43.2	152 1 28.6	23 7 49.4	38.4		
21	. .	. .	. .	37.1	1 57.5	155 1 19.8	26 7 40.6	37.5		
22	. .	. .	. .	1 4.0	1 48.0	153 5 44.0	24 12 4.8	31.9		
23	. .	. .	. .	2 12.0	+ 51.6	133 8 40.0	— 4 15 0.8			Uncertain by 2″ or 3″.
24	79.5	77.9	. .	— 1 4.0	— 52.0	46 38 4.9	+ 82 15 34.3	+ 8.1		
25										
26	. .	. .	. .	+ 1 34.3	+ 2 32.5	160 19 6.0	— 31 25 26.8	— 1.8		
27	78.5	76.5	. .	— 1 47.9	— 1 0.6	42 17 13.8	+ 86 36 25.4	17.6		
28	. .	. .	. .	— 1 7.3	+ 0.2	90 13 54.9	+ 38 39 44.3	— 23.3		
29	78.0	76.2	. .	+ 16.1	59.4	137 6 16.2	— 8 12 37.0			
30	. .	76.1	. .	— 1 33.6	1 44.5	152 15 12.1	— 23 21 32.9			
31	81.0	92.3	29.961	+ 1 25.1	12.8	105 16 42.2	+ 23 36 57.0		D.	Good.
32	82.2	91.6	. .	1 8.7	15 59.5	106 22 10.4	22 31 28.8			Cloudy.
33	. .	. .	.953	+ 34.9	12.8	105 10 49.9	23 42 49.3		N.	
34	85.0	91.5	. .	— 1 57.1	13.5	106 13 16.9 }	+ 22 24 38.3			
35	. .	. .	. .	— 28.9	13.9	106 44 45.0 }				
36										
37	82.2	78.8	. .	+ 2 26.3	1 44.8	152 19 9.8	— 23 25 30.6	+ 43.2		
38	. .	. .	. .	— 21.2	1 42.1	151 41 20.3	22 47 41.1	39.5		
39	. .	. .	. .	38.4	1 57.9	155 1 19.1	26 7 39.9	37.6		Through flying clouds.
40	. .	. .	. .	1 10.4	1 41.5	151 30 30.9	22 36 51.7	32.9		
41	. .	. .	. .	1 45.4	1 33.0	149 19 48.0	20 26 8.8	+ 30.2		
42	79.0	74.8	. .	9.5	2 30.4	159 52 21.9	— 30 58 42.7	— 17.8		
43	. .	. .	. .	— 1 5.8	0.2	90 13 54.0	+ 38 39 45.2	23.8		
44	. .	. .	. .	+ 1 36.4	2 12.3	157 18 47.6	— 28 25 8.4	24.1		
45	. .	. .	. .	+ 1 15.2	1 43.5	151 47 57.8	22 54 18.6	— 27.4		
46	78.5	74.2	. .	— 3 8.2	59.7	136 57 50.8	— 8 4 11.6		Ha.	
47										
48	82.0	88.5	29.943	+ 2 12.1	13.0	105 7 28.0	+ 23 46 11.2		D.	Hazy; faint.
49	. .	. .	. .	1 46.7	14.1	106 52 3.0 }	+ 22 17 19.7			
50	81.5	90.0	. .	19.1	13.6	106 20 36.0 }				
51										Image very faint and unsteady.
52	79.2	76.2	. .	+ 23.2	1 49.3	153 7 13.2	— 24 13 34.0	+ 37.3		Whole number rev. assumed.
53	. .	75.6	. .	— 2 21.0	1 51.2	153 29 30.6	24 35 51.4	27.8		
54	. .	. .	. .	+ 28.1	52.0	133 1 21.1	4 7 41.9	20.2		
55	. .	. .	. .	— 6 20.8	51.8	132 54 32.0	4 0 52.8	19.0		
56	. .	. .	. .	43.6	4 19.2	168 13 37.3	39 19 58.1	21.7		
57	79.0	75.0	. .	1 12.8	2 32.6	160 6 21.1	31 12 41.9	16.8		
58	. .	. .	. .	2 59.8	2 33.1	160 9 34.4	31 15 55.2	12.5		
59	. .	. .	. .	— 2 39.0	2 12.1	157 14 33.7	28 20 54.5	7.9		
60	78.2	74.3	. .	+ 1 32.7	3 3.6	163 19 35.4	34 25 56.2	+ 1.2		
61	. .	. .	. .	— 3 28.8	1 43.4	151 43 12.8	22 49 33.6	— 4.9		
62	78.0	73.9	. .	— 2 35.0	+ 1 36.4	149 58 58.5	— 21 5 19.3	— 9.6		
63	. .	. .	. .	+ 2 17.5	— 1 42.2	28 35 33.6	+ 79 41 54.4	+ 19.6		
64	77.7	73.5	. .	— 50.3	+ 0.2	90 13 53.3	+ 38 39 45.9	— 24.1		
65										

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
July 11	1	η Ursæ Minoris		3	III–V.	52 49 59.9	59.4	62.9	60.0	56.9	63.5	60.43	29.841	.821	29.900
	2	23 Sagittarii	7.0	5	I–IX.	152 14 59.8	59.2	61.5	57.1	54.2	58.5	58.38	35.612	.627	
	3	B. A. C. 6310	8.3	5	III–VII.	159 49 61.1	59.8	63.2	59.0	54.2	58.3	59.27	30.125	.146	29.887
	4	α Lyræ		5	I–IX.	90 14 61.2	61.9	62.9	58.5	57.6	63.5	60.93	32.113	.109	
	5	B. A. C. 6382		1	V.	157 19 61.2	59.8	61.8	58.2	54.7	58.3	59.00	36.410	.423	
	6	Victoria		5	III–VII.	136 44 61.5	62.5	61.7	58.5	57.0	61.2	60.40	28.009	.022	29.884
	7	Nadir 19h. 20m.		3		269 59 60.8	60.4	61.4	58.7	56.8	61.6	59.95	29.934	.943	
	8	Eunomia		5	III–VII.	151 59 61.6	61.1	63.3	58.7	56.2	60.3	60.20	25.453	.467	
12	9	Sun S. L.		2	VII, IX.	107 14 60.9	65.4	62.3	58.2	60.6	63.4	61.80	28.146	.158	29.978
	10	Nadir 17h.		3		269 59 60.2	61.1	61.1	57.3	59.1	61.9	60.12	29.919	.927	
13	11	Sun N. L.		2	I, III.	106 54 60.9	66.1	63.4	59.9	58.8	61.3	61.73	33.462	.450	
	12	Sun S. L.		2	VII, IX.	107 24 59.3	64.3	62.1	57.3	57.0	59.7	59.95	30.443	.450	30.147
	13	Moon N. L.		5	I–IX.	145 29 60.8	61.4	60.0	55.4	56.2	59.9	58.95	35.620	.633	30.144
	14	Nadir 15h. 40m.		3		269 59 60.9	61.7	61.4	58.1	58.3	62.1	60.42	29.939	.948	
	15	Anon. 15h. 45m. 26s.		5	I–IX.	150 29 62.2	63.5	64.5	59.3	58.2	60.3	61.33	37.984	38.005	30.160
	16	O. Arg. S. 15112		4	III–IX.	152 44 63.9	64.8	65.8	62.0	58.5	62.3	62.88	30.580	.594	
	17	B. A. C. 5394		5	I–IX.	152 54 59.4	60.2	60.8	57.4	59.0	58.6	59.23	27.673	.687	30.156
	18	B. A. C. 5464, south *		2	I, VII.	158 14 59.8	61.9	62.0	58.0	54.6	58.1	59.07	31.038	.070	
	19	B. A. C. 5464, north *		2	V, IX.	" " "	"	"	"	"	"	"	31.296	.326	
	20	B. A. C. 5556		5	I–IX.	158 29 59.7	62.3	62.2	59.0	55.6	58.4	59.53	29.185	.216	
	21	O. Arg. S. 16045		5	I–IX.	147 59 60.5	60.4	60.2	56.9	53.8	57.9	58.28	30.808	.821	30.162
	22	ε Ursæ Minoris		1	V.	46 39 61.6	64.6	65.7	63.1	59.9	63.3	63.03	32.020	.033	
	23	α Herculis		5	I–IX.	114 19 62.0	64.9	63.0	61.5	58.1	63.2	62.12	29.613	.610	30.148
	24	B. A. C. 5892		5	I–IX.	160 9 60.5	60.5	62.9	58.8	53.8	58.3	59.13	35.560	.581	
	25	α Canis Majoris		5	I–IX.	145 24 62.7	65.2	62.4	60.1	57.4	60.6	61.40	31.223	.248	30.194
14	26	Sun S. L.		2	II, IV.	107 34 62.9	67.9	65.0	61.3	59.9	63.3	63.38	32.233	.230	
	27	Sun N. L.		1	VIII.	106 59 60.9	66.3	61.9	59.7	60.4	61.1	61.72	25.391	.411	30.184
	28	Moon N. L.		5	III–VII.	147 54 62.0	61.2	62.0	57.3	55.2	57.9	59.27	26.451	.465	30.144
	29	δ Ophiuchi		5	III–VII.	132 14 61.3	62.1	60.0	57.0	55.6	59.0	59.18	33.196	.213	30.148
	30	η Draconis, (Ref.)		3	III–V.	292 54 62.6	62.8	63.5	57.6	59.1	61.8	61.23	28.903	.922	
	31	η Draconis		4	VI–IX.	67 4 61.8	63.0	65.5	61.9	60.2	64.7	62.85	31.128	.100	
	32	Nadir 16h. 40m.		3		269 59 63.0	62.4	61.8	60.2	58.9	62.7	61.50	29.982	.992	
	33	22 Ophiuchi	7.0	5	III–VII.	152 9 63.0	63.6	64.0	60.0	57.8	61.0	61.57	31.855	.863	30.156
	34	α Herculis, (Ref.)		4	I–IV.	245 39 64.0	63.1	66.0	63.0	60.4	66.1	63.77	30.432	.451	30.154
	35	α Herculis		4	VI–IX.	114 24 63.9	66.1	65.0	62.1	60.0	62.9	63.33	39.248	.259	
	36	O. Arg. S. 16844	8.0	1	V.	148 14 62.4	63.0	63.0	59.1	56.4	58.1	60.33	32.458	.469	
	37	B. A. C. 5946	7.5	3	V, VIII, IX.	156 49 62.2	63.9	62.9	60.6	57.6	59.5	61.12	31.848	.867	
	38	Anon. 17h. 33m. 37s.	8.0	1	V.	163 9 62.0	62.9	62.7	60.9	57.2	60.0	60.95	38.838	.843	
	39	Anon. 17h. 34m. 49s.	8.0	1	V.	" " "	"	"	"	"	"	"	23.255	.272	30.152
15	40	Moon N. L.		5	I–IX.	149 24 59.8	59.0	60.0	56.8	52.9	55.3	57.30	29.474	.493	30.094
	41	α Canis Majoris		5	I–IX.	145 24 59.9	63.0	60.8	59.0	55.4	56.9	59.17	31.162	.186	30.103
16	42	Sun S. L.		4	I–IV.	107 49 61.4	66.8	63.9	60.6	59.1	60.7	62.08	23.790	.776	
	43	Sun N. L.		4	VI–IX.	107 19 61.2	65.5	63.1	60.3	59.2	59.2	61.42	26.628	.629	30.084
	44	Anon. 15h. 44m. 58s.		5	I–IX.	154 24 61.8	63.6	61.6	58.6	57.1	60.7	60.57	32.165	.194	30.063
	45	Nadir 16h. 20m.		3		269 59 60.4	63.1	61.0	59.1	58.5	62.2	60.72	29.964	.974	
	46	Lacaille 6987		5	I–IX.	162 39 61.2	63.5	62.1	61.0	56.4	59.4	60.60	35.586	.607	30.080
	47	Weisse XVII, 46		1	V.	133 19 60.7	63.8	61.6	58.9	57.9	61.0	60.65	28.189	.206	30.079
	48	Anon. 17h. 15m. 4s.		5	I–IX.	151 44 60.5	63.6	62.1	59.1	57.1	59.2	60.27	31.190	.218	
	49	β Draconis, (Ref.)		2	II, IV.	283 29 61.7	63.4	62.5	60.1	57.7	62.4	61.30	28.834	.861	
	50	Moon N. L.		2	I, III.	149 39 60.6	63.1	61.7	59.3	55.9	57.9	59.75	34.824	.866	
	51	Moon S. L.		2	VI, VIII.	150 9 58.7	60.8	59.8	58.0	54.6	56.5	58.07	29.801	.793	30.079
	52	B. A. C. 6161		2	IV, V.	152 34 59.3	62.1	61.6	58.7	54.7	58.2	59.10	29.446	.458	
	53	O. Arg. S. 17975		1	VIII.	" " "	"	"	"	"	"	"	39.983	.007	
	54	α Lyræ		5	I–IX.	90 14 58.8	63.0	61.1	60.0	56.7	61.0	60.10	32.113	.109	30.085
	55	Victoria		1	V.	136 34 59.4	64.1	60.2	59.5	55.0	59.4	59.60	34.543	.549	
	56	Eunomia		1	V.	151 49 59.8	62.3	61.8	59.6	54.5	57.9	59.32	29.769	.772	30.071
	57	Nadir 19h. 35m.		4		269 59 60.7	64.2	62.5	61.2	58.2	61.0	61.30	29.966	.976	
18	58	Sun N. L.		4	I–IV.	107 44 60.2	64.4	62.3	59.5	57.1	60.4	60.65	34.548	.536	
	59	Sun S. L.		4	VI–IX.	108 14 60.9	65.8	61.9	59.6	57.7	60.8	61.12	31.706	.709	30.344
	60	Eunomia		3	III–VII.	151 44 61.3	62.6	63.0	60.4	56.1	59.0	60.40	30.211	.231	30.387
	61	Nadir 19h. 40m.		4		269 59 61.3	62.7	62.3	61.0	58.1	61.0	61.07	29.963	.973	
	62	Moon N. L.		4	I–IV.	145 44 61.0	64.0	63.0	59.2	56.5	59.8	60.58	27.706	.870	
19	63	Sun S. L.		4	I–IV.	108 24 60.9	66.3	62.0	60.3	58.1	62.0	61.60	29.850	.836	30.312
	64	Sun N. L.		4	VI–IX.	107 54 60.5	64.9	61.2	58.6	58.0	60.5	60.62	32.756	.759	
	65	α Canis Majoris		5	I–IX.	145 24 61.9	63.8	61.9	58.9	56.5	61.5	60.75	31.226	.251	30.076

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	81.2	77.6	29.943	+ 3.8	— 41.7	52 49 22.5	+ 76 4 16.7	+ 19.6	N.	Cloudy.
2	. .	. .	. .	— 2 58.1	+ 1 44.1	152 13 44.3	— 23 20 5.1	— 16.8		
3	80.0	76.0	. .	6.4	2 28.7	159 52 21.5	— 30 58 42.3	17.7		
4	. .	. .	. .	1 7.9	0.2	90 13 53.2	+ 38 39 46.0	24.7		
5	. .	. .	. .	— 3 23.0	2 10.8	157 18 46.8	— 28 25 7.6	— 24.0		
6	79.7	75.3	. .	+ 1 0.2	58.6	136 46 59.2	7 53 20.0			
7										
8	. .	74.7	. .	2 20.2	+ 1 43.6	152 4 4.0	— 23 10 24.8			
9	84.0	93.8	29.929	+ 55.5	— 15 22.3	107 0 35.0	+ 4 53 4.2		D.	
10										
11	. .	. .	. .	— 1 50.3	+ 14.2	106 53 25.6	+ 21 44 27.2			
12	81.0	83.4	. .	16.3	+ 14.7	107 24 58.3				
13	82.5	81.0	. .	2 58.7	— 29 39.5	144 57 20.7	— 16 3 41.5			Good.
14										
15	. .	77.6	. .	4 13.0	+ 1 37.4	150 27 25.7	21 33 46.5	+ 50.7		
16	. .	. .	. .	— 20.8	1 47.2	152 46 29.2	23 52 50.0	48.4		
17	81.0	76.6	29.943	+ 1 10.7	1 48.2	152 57 58.1	24 4 18.9	43.3		
18	. .	. .	. .	— 35.3	2 18.2	158 16 41.9	29 23 2.7	40.5		
19	. .	. .	. .	— 43.3	2 18.2	158 16 33.9	29 22 54.7	40.5		
20	. .	. .	. .	+ 22.8	2 20.2	158 32 42.5	29 39 3.3	33.6		
21	80.0	75.0	. .	— 27.5	+ 1 28.9	148 0 59.6	— 19 7 20.4	26.0		
22	. .	. .	. .	— 1 5.5	— 52.6	46 38 4.9	+ 82 15 34.3	6.2		
23	79.0	73.7	. .	+ 10.4	+ 25.2	114 20 37.7	+ 14 33 1.5	9.0		
24	. .	. .	. .	— 2 56.7	2 33.1	160 9 35.5	— 31 15 56.3	12.6		
25	79.5	85.2	. .	40.9	1 19.2	145 25 39.7	— 16 32 0.5	19.2		
26	. .	. .	. .	— 1 11.7	14.7	107 34 6.3	+ 21 35 17.1			
27	81.0	86.7	. .	+ 2 22.0	+ 14.3	107 2 38.0				
28	80.5	77.4	. .	+ 1 49.0	— 31 23.9	147 25 24.3	— 18 31 45.1		Ha.	
29	80.0	76.5	. .	— 1 42.5	+ 50.4	132 14 7.0	— 3 20 27.8	37.1		
30	. .	. .	. .	+ 32.0	+ 23.5	292 55 56.7	+ 61 49 36.0	19.4		
31	. .	. .	. .	— 36.2	— 23.5	67 4 3.0	+ 61 49 36.2			
32										
33	79.5	74.6	. .	1 0.2	+ 1 45.1	152 10 46.4	— 23 17 7.2	25.9		
34	79.0	73.6	. .	15.9	— 25.3	245 39 22.5	+ 14 33 1.8	8.8		
35	. .	. .	. .	4 51.9	+ 25.3	114 20 36.7	+ 14 33 2.5			
36	. .	. .	. .	1 19.2	1 29.9	148 15 11.0	— 19 21 31.8	9.6		
37	. .	. .	. .	1 0.3	2 9.6	156 51 10.4	27 57 31.2	7.6		
38	. .	. .	. .	— 4 38.9	3 1.5	163 8 23.5	34 14 44.3	6.9		
39	78.5	73.0	. .	+ 3 29.0	+ 3 3.0	163 16 32.9	34 22 53.7	6.4		
40	76.3	72.0	. .	+ 14.1	— 32 38.0	148 52 33.4	19 58 54.2		N.	
41	74.7	78.2	. .	— 38.9	+ 1 20.0	145 25 40.2	— 16 32 1.0	18.7		Tremulous and blurred.
42	. .	. .	. .	+ 3 13.2	15.1	107 53 30.3	+ 21 15 54.2			
43	76.0	82.8	. .	+ 1 43.8	14.6	107 21 59.8				
44	78.0	75.3	. .	— 1 10.5	1 55.2	154 25 45.2	— 25 32 6.0	52.0	D.	
45										
46	77.0	72.7	. .	— 2 57.5	2 56.1	162 39 59.2	33 46 20.0	31.1		
47	76.7	71.5	. .	+ 54.4	52.7	133 21 47.7	4 28 8.5	14.2		
48	. .	. .	. .	— 39.9	1 43.7	151 46 4.0	— 22 52 24.8	+ 13.3		
49	. .	. .	. .	+ 33.9	+ 13.5	283 30 48.6	+ 52 24 27.9	— 3.5		
50	. .	. .	. .	— 2 34.2	— 49 28.1	148 47 57.4	— 20 10 29.8			
51	75.7	70.0	. .	+ 4.7	— 49 42.1	149 20 20.6				Wire VIII, the mountain tops; wire VI, more nearly the general surface.
52	. .	. .	. .	+ 15.2	+ 1 47.7	152 37 2.0	23 43 22.8	8.5		
53	. .	. .	. .	— 5 15.3	1 47.4	152 31 31.1	— 23 37 51.9	11.1		
54	74.5	69.2	. .	1 7.9	0.2	90 13 52.4	+ 38 39 46.8	— 26.3		
55	. .	67.6	. .	— 2 24.3	59.3	136 33 34.6	— 7 39 55.4			Very faint.
56	73.0	66.6	. .	+ 5.4	1 45.0	151 51 49.7	— 22 58 10.5			
57										
58	. .	. .	. .	— 2 23.9	14.9	107 42 51.6	+ 20 55 2.9		N.	
59	77.2	89.7	. .	55.3	15.2	108 14 21.0				
60	73.7	68.8	. .	— 9.0	+ 1 45.2	151 46 36.5	— 22 52 57.3			
61										
62	. .	68.5	. .	+ 1 4.9	— 32 3.6	145 14 1.9	— 16 20 22.7			
63	78.5	88.7	. .	+ 3.3	+ 15.5	108 25 20.4	+ 20 44 5.3		Ha.	
64	. .	. .	. .	— 1 28.2	15.0	107 53 47.4				
65	78.3	86.6	. .	— 41.0	+ 1 18.7	145 25 38.4	— 15 31 59.2	+ 17.8	N.	Tremulous.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
July 20	1	Sun N. L.		4	I–IV.	108 4 62.6	66.6	61.0	58.7	59.1	63.8	61.97	30.246	.244	
	2	Sun S. L.		4	VI–IX.	108 34 63.2	69.6	62.4	61.0	61.6	65.9	63.95	27.380	.394	30.051
21	3	Sun S. L.		5	III–VII.	108 49 60.9	63.7	60.3	58.1	57.4	61.7	60.35	33.718	.718	30.000
	4	Nadir 17h. 35m.		4		269 59 60.5	58.9	60.3	56.6	56.0	59.2	58.58	29.893	.902	
	5	ψ^1 Draconis		4	VI–IX.	56 39 62.2	62.8	65.9	63.1	59.7	65.0	63.12	27.969	.904	30.033
	6	B. A. C. 2095, S. P.		3	5–1.	28 34 59.2	61.4	64.4	63.0	57.5	60.0	60.92	25.707	.710	
	7	α Lyræ		5	I–IX.	90 14 60.6	62.5	62.2	59.8	56.4	61.5	60.50	32.169	.166	
22	8	Sun N. L.		4	I–IV.	108 29 60.0	65.8	61.6	61.1	55.4	58.1	60.33	32.844	.830	30.132
	9	Sun S. L.		4	VI–IX.	108 59 60.0	64.7	60.5	60.8	55.6	58.0	59.93	29.886	.893	
	10	Nadir 8h. 46m.		3		269 59 60.1	63.0	61.7	61.2	56.8	58.0	60.13	29.937	.947	
	11	α Lyræ		5	III–VII.	90 14 59.3	66.6	63.9	64.5	57.9	60.4	62.10	32.209	.206	30.164
23	12	Sun S. L.		2	I, III.	109 14 59.2	67.3	60.9	63.4	57.7	60.3	61.47	35.073	.065	
	13	Sun N. L.		2	VII, IX.	108 39 59.5	69.0	61.6	62.7	57.5	60.5	61.80	28.359	.374	30.226
	14	Nadir 11h. 40m.		3		269 59 61.6	61.9	61.0	58.1	58.4	60.5	60.25	29.924	.934	
	15	B. A. C. 5946		5	I–IX.	156 49 61.4	64.0	61.9	60.2	57.3	58.5	60.55	31.796	.813	30.203
	16	O. Arg. S. 17209		3	III–VII.	149 39 61.5	64.0	63.2	60.9	57.2	58.5	60.88	32.049	.067	
	17	O. Arg. S. 17506		1	V.	151 54 59.3	63.3	61.8	59.2	56.3	57.9	59.63	33.187	.204	
	18	O. Arg. S. 17681		2	IV, VI.	150 9 59.6	62.1	61.4	58.9	55.9	56.0	58.98	33.817	.823	
	19	B. A. C. 6190		1	IV.	157 39 60.1	63.3	62.7	60.0	57.1	58.0	60.20	43.395	.410	
	20	B. A. C. 2095, S. P.		5	VII–III.	28 34 58.7	63.2	65.0	63.5	59.0	59.7	61.52	25.671	.715	
	21	α Lyræ		3	III–VII.	90 14 58.0	64.1	61.3	59.6	57.5	60.0	60.08	32.134	.142	30.203
	22	B. A. C. 2326, S. P.		2	VI, IV.	31 34 60.2	67.0	65.1	65.6	59.6	61.1	63.10	30.629	.668	
	23	Eunomia		1	V.	157 29 61.0	63.0	63.1	60.5	56.1	67.9	61.93	27.870	.876	30.207
25	24	Nadir 17h. 30m.		3		269 59 59.4	61.2	61.2	59.0	56.6	58.9	59.39	29.892	.900	
	25	O. Arg. S. 17091	7.5	1	V.	152 9 59.5	62.5	62.3	59.0	55.8	57.2	59.38	32.705	.708	30.003
	26	B. A. C. 6015	6.2	1	IX.	155 44 61.0	63.2	62.8	59.1	56.0	57.7	59.97	26.329	.370	
	27	B. A. C. 6249	6.5	5	III–VII.	159 19 60.7	63.4	64.7	62.1	56.8	57.8	60.92	31.961	.975	30.002
	28	Anon. 18h. 29m. 57s.		1	V.	152 14 61.0	64.0	64.3	61.8	56.9	58.2	61.03	16.150	.167	
	29	B. A. C. 6346	6.3	1	V.	" " "	"	"	"	"	"	"	40.411	.423	
	30	Lacaille 7823	8:	1	V.	168 14 61.3	63.6	65.0	63.2	56.9	58.2	61.37	32.259	.276	
	31	Lacaille 7873	8:	5	III–VII.	" " "	"	"	"	"	"	"	41.789	.798	
	32	Victoria	8.5	3	III–VII.	136 24 60.5	65.0	63.8	60.0	57.9	59.3	61.08	34.559	.566	
	33	Eunomia	9.0	3	III–VII.	151 24 60.1	63.0	63.4	60.4	56.0	56.2	59.85	29.307	.327	30.003
	34	Weisse XIX, 1319	7.0	1	V.	143 9 60.4	64.2	63.5	61.0	56.7	58.1	60.65	28.498	.507	30.009
	35	Psyche	9.8	1	V.	146 44 60.2	62.3	62.0	59.1	55.1	57.6	59.38	27.065	.079	
26	36	Sun N. L.		2	I, III.	109 19 59.4	66.4	59.0	60.8	58.2	60.2	60.67	30.322	.314	30.156
	37	Sun S. L.		2	VII, IX.	109 49 56.4	65.3	58.7	59.6	56.9	58.8	59.28	27.356	.371	
	38	Nadir 12h.		5		269 59 61.0	59.4	59.1	55.6	58.3	60.6	59.00*d*	29.870	.880	
	39	B. A. C. 5724		1	V.	132 54 61.3	64.4	60.5	57.4	58.0	61.3	60.48	32.565	.573	30.188
	40	ω Draconis		5	III–VII.	60 4 61.5	63.4	64.6	60.1	61.4	65.4	62.73	30.713	.696	30.200
	41	Nadir 18h.		3		269 59 60.3	62.3	60.4	57.8	58.6	61.4	60.13*d*	29.913	.921	
27	42	Sun S. L.		4	I–IV.	110 4 59.8	63.2	59.6	57.7	58.5	61.0	59.97	29.988	.979	
	43	Sun N. L.		4	VI–IX.	109 34 60.4	64.1	59.0	57.5	58.3	60.9	60.03	32.873	.882	30.259
	44	1 Aquilæ		5	I–IX.	137 9 61.4	61.5	60.2	56.0	56.0	59.8	59.15	24.913	.924	30.216
	45	α Lyræ		4		90 14 61.6	62.6	63.2	57.5	59.4	63.7	61.33	32.269	.267	
	46	Nadir 18h. 40m.		4		269 59 60.5	59.4	60.0	56.3	57.2	61.2	59.10	29.887	.894	
	47	Victoria		1	V.	136 19 60.5	62.6	60.5	55.0	57.8	60.2	59.43	24.595	.600	30.212
	48	α Canis Majoris		2	VII, IX.	145 24 60.1	63.9	60.9	57.4	56.8	59.6	59.78	31.225	.251	30.220
28	49	Sun N. L.		2	I, III.	109 49 60.0	63.6	58.4	57.8	58.5	62.1	60.07	34.910	.894	
	50	Sun S. L.		2	VII, IX.	110 19 59.2	63.3	58.3	56.5	57.9	60.2	59.23	31.927	.937	30.191
	51	Nadir 12h.		6		269 59 58.8	54.7	55.1	50.9	54.7	59.4	55.60*d*	29.760	.768	
	52	O. Arg. S. 17728		5	I–IX.	148 14 57.3	56.0	56.1	51.8	51.2	55.5	54.65	30.541	.557	
	53	B. A. C. 6220		3	I–V.	157 24 57.2	58.3	57.0	53.1	52.1	55.7	55.57	28.569	.586	30.072
	54	Victoria		1	V.	136 24 59.5	63.0	59.5	54.9	56.2	60.0	58.85	33.597	.602	30.063
	55	Eunomia		1	IX.	151 14 60.4	60.6	60.0	55.5	55.5	58.1	58.35	34.575	.600	30.064
	56	λ Ursæ Minoris, (Ref.)		2	1, 2.	319 59 61.0	61.9	61.8	55.2	55.5	60.2	59.27	30.644	.653	
	57	λ Ursæ Minoris		3		39 59 59.4	62.1	63.0	61.0	52.9	63.7	60.35	29.228	.181	
	58	α Cygni, (Ref.)		2	I, III.	275 54 59.6	59.7	61.0	56.8	58.0	61.6	59.45	31.258	.307	
	59	α Cygni		2	VIII, IX.	84 4 60.4	62.3	62.0	60.0	58.6	64.3	61.27	28.651	.615	30.051
	60	Nadir 21h. 50m.		3		269 59 59.5	60.9	60.1	56.5	57.3	61.5	59.30	29.895	.902	
	61	ζ Cygni		5	I–IX.	99 14 59.5	62.7	59.5	57.3	55.8	60.4	59.20	33.825	.814	30.045
	62	Neptune		2	I, VII.	126 59 59.2	62.3	60.0	55.5	55.0	58.1	58.35	31.259	.275	29.991
	63	α Canis Majoris		3	IV–VI.	145 24 59.1	61.1	58.4	56.0	54.5	57.8	57.82	31.125	.142	29.984
29	64	Sun S. L.		4	I–IV.	110 34 62.6	65.2	60.4	59.0	60.0	63.1	61.72	33.411	.403	29.956
	65	Sun N. L.		4	VI–IX.	109 59 63.9	65.9	61.0	60.2	61.6	64.2	62.80	26.819	.826	
	66	Mercury, centre		1	V.	112 24 60.2	61.1	56.6	54.9	57.8	61.2	58.63	27.859	.864	29.936

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.943	— 9.4	+ 15.1	108 5 7.6			N.	
2	80.5	90.0	. .	+ 1 19.9	+ 15.5	108 36 39.3	+ 20 32 45.8			Microscopes read by D.
3	80.0	84.9	. .	— 1 58.3	— 15 31.1	108 32 30.9	20 21 8.3			
4										
5	76.0	68.3	. .	+ 1 3.9	36.9	56 40 30.1	72 13 9.1	— 11.4		Through dense haze.
6	. .	66.6	. .	+ 2 12.6	— 1 42.9	28 35 30.6	79 41 51.4	+ 25.0		Through dense haze.
7	. .	. .	. .	— 1 9.7	+ 0.2	90 13 51.0	38 39 48.2	— 27.5		
8	73.0	75.5	. .	— 1 30.5	15.9	108 28 45.7	20 9 7.4		Ha.	
9	. .	. .	. .	+ 1.6	16.4	109 0 17.9				
10										
11	68.0	60.9	. .	— 1 10.9	0.2	90 13 51.4	38 39 47.8	— 27.8		
12	. .	. .	29.926	— 2 41.0	16.5	109 12 36.9			D.	
13	71.7	82.2	. .	+ 48.6	15.9	108 41 6.3	+ 19 56 47.6			
14										Image dim.
15	72.5	69.1	. .	— 59.1	2 10.8	156 51 12.2	— 27 57 33.0	+ 8.0		
16	. .	. .	29.918	1 7.3	1 36.2	149 40 29.7	20 46 50.5	+ 1.8		
17	. .	. .	. .	1 43.0	1 45.5	151 55 2.1	23 1 22.9	— 4.2		
18	. .	. .	. .	2 2.3	1 38.3	150 9 34.9	21 15 55.7	7.3		
19	. .	. .	. .	— 7 2.8	+ 2 16.3	157 35 13.7	— 28 41 34.5	— 9.8		
20	. .	65.7	. .	+ 2 11.7	— 1 43.7	28 35 29.5	+ 79 41 50.2	+ 23.4		
21	71.0	65.4	. .	— 1 9.7	+ 0.2	90 13 50.5	38 39 48.7	— 28.1		
22	. .	64.5	. .	— 23.5	— 1 32.4	31 33 7.2	+ 82 39 27.9	+ 36.8		
23	70.0	64.1	. .	+ 1 4.0	+ 2 16.8	157 33 22.7	— 28 39 43.5		N.	Hazy; very doubtful.
24										
25	70.7	66.5	. .	— 1 27.4	1 46.2	152 10 18.1	23 16 38.9	+ 4.9		
26	. .	. .	. .	+ 1 51.2	2 4.6	155 48 55.7	26 55 16.5	+ 3.1		
27	70.0	64.8	. .	— 1 4.4	2 28.3	159 21 24.8	30 27 45.6	— 13.6		
28	. .	. .	. .	+ 7 10.9	1 47.4	152 23 59.3	23 30 20.1	19.7		
29	. .	. .	. .	— 5 29.2	1 46.5	152 11 18.3	23 17 39.1	20.6		
30	. .	. .	. .	1 13.9	4 24.0	168 18 11.4	39 24 32.2	19.4		Blurred; uncertain.
31	. .	. .	. .	6 12.2	4 22.2	168 13 11.3	39 19 32.1	23.2		
32	. .	. .	. .	— 2 25.6	59.2	136 23 34.6	7 29 55.4			
33	69.2	65.0	. .	+ 18.5	1 43.5	151 27 1.8	22 33 22.6			
34	68.7	63.9	. .	44.2	1 15.5	143 12 0.3	14 18 21.1	— 56.0		
35	. .	. .	. .	+ 1 29.0	1 26.3	146 47 54.6	— 17 54 15.4			Very faint.
36	72.5	84.5	. .	— 12.4	16.4	109 20 4.6			D.	
37	. .	. .	. .	+ 1 19.8	16.9	109 51 35.9	+ 19 17 49.0			Both limbs tremulous.
38										
39	75.0	74.6	. .	— 1 23.2	+ 51.8	132 54 29.0	— 4 0 49.8	+ 17.5		
40	75.0	73.1	. .	24.4	— 32.2	60 4 6.1	+ 68 49 33.1	— 10.2		
41										
42	. .	. .	. .	— 1.9	+ 17.1	110 5 15.1			N.	
43	76.5	88.0	. .	+ 1 32.9	16.6	109 33 43.7	+ 19 4 9.8			
44	76.5	74.1	. .	+ 2 36.5	1 0.3	137 13 35.9	— 8 19 56.7	21.8		
45	. .	. .	. .	— 1 13.6	0.2	90 13 47.9	+ 38 39 51.3	— 29.2		Wires I, III, V, VIII. Cloudy.
46										
47	76.0	73.7	. .	+ 2 46.6	58.6	136 23 44.6	— 7 30 5.4			Faint and uncertain. Bar. and ther. read at
48	77.0	86.6	. .	— 41.8	1 19.0	145 25 36.9	— 16 31 57.7	+ 16.4	D.	19h. 12m. Whole number rev. recorded 34.
49	. .	. .	. .	2 35.9	16.7	109 47 40.8				Whole number rev. recorded 35.
50	80.0	89.7	. .	1 3.2	17.2	110 19 13.2	+ 18 50 12.2			
51										Good.
52	. .	. .	. .	— 20.0	1 29.2	148 16 3.8	— 19 22 24.5	— 8.2		Degrees and minutes of circle reading assumed.
53	79.5	76.7	. .	+ 41.7	2 12.3	157 27 49.5	28 34 10.3	11.7		Clouds from wire VI to IX. Differs 5′ from B. A. C.
54	79.0	76.0	. .	— 1 55.4	58.1	136 24 1.5	7 30 22.3			
55	78.7	75.5	. .	2 26.7	1 40.6	151 14 12.2	— 22 20 33.0			At. ther. recorded 73.7.
56	. .	. .	. .	— 23.0	+ 1 6.1	320 0 42.3	+ 88 54 21.5	56.5		
57	. .	. .	. .	+ 23.2	— 1 6.1	39 59 17.4	88 54 21.8			At 20h. 6m. 57s., 8m. 12s., and 9m. 27s.
58	. .	. .	. .	— 43.5	+ 5.8	275 54 21.7	44 48 0.9	68.6		
59	77.5	73.5	. .	+ 40.8	— 5.8	84 5 36.2	44 48 3.0			
60										
61	77.5	73.0	. .	— 2 2.1	+ 9.0	99 13 6.1	29 40 33.1	— 77.4		Whole number rev. recorded 34.
62	74.5	69.3	. .	42.5	42.0	126 59 57.8	+ 1 53 41.4			
63	79.0	88.7	. .	38.3	1 18.1	145 25 37.6	— 16 31 58.4	+ 16.4	Ha.	
64	84.0	93.1	. .	— 1 49.2	17.1	110 33 29.6				
65	. .	. .	. .	+ 1 36.9	16.6	110 1 56.3	+ 18 35 56.3			
66	86.5	94.1	. .	+ 1 4.3	+ 19.5	112 26 22.4	+ 16 27 16.8			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
July 29	1	α Ophiuchi, (Ref.)	- -	4	I-IV.	243 44 60.1	55.2	60.0	52.6	55.3	62.1	57.55	26.573	.584	29.908
	2	α Ophiuchi	-	3	VII-IX.	116 14 60.8	58.3	56.1	51.4	55.1	60.4	57.02	33.125	.134	- -
	3	Anon. 17h. 43m. 21s.	9.0	1	V.	157 29 60.9	58.2	58.3	53.5	55.6	59.0	57.58	37.006	.018	- -
	4	γ Draconis, (Ref.)	- -	4	I-IV.	282 34 60.4	55.5	58.8	51.9	54.9	60.8	57.05	26.262	.310	- -
	5	γ Draconis	- -	4	VI-IX.	77 24 60.3	59.1	62.2	56.0	59.6	64.0	60.20	33.418	.399	29.908
	6	Nadir 18h. 10m.	- -	3	- -	269 59 60.3	57.3	57.5	53.0	55.9	61.7	57.62*d*	29.835	.840	- -
	7	Anon. 18h. 29m. 38s.	8.0	1	V.	152 14 60.2	58.0	59.0	54.1	54.4	58.9	57.43	15.940	.949	- -
	8	B. A. C. 6346	7.0	4	VI-IX.	" " "	"	"	"	"	"	"	40.164	.191	29.904
	9	Victoria	9.0	1	V.	136 24 59.8	59.3	58.1	53.0	55.3	59.7	57.53	32.385	.399	- -
	10	Eunomia	9.0	1	IX.	151 14 61.7	59.2	61.2	55.6	55.3	60.0	58.83	33.061	.095	29.900
	11	Neptune	- -	5	III-VII.	126 59 61.0	61.4	60.5	57.0	55.2	59.1	59.03	30.749	.752	29.886
30	12	Sun N. L.	- -	2	VII, IX.	110 14 61.5	63.7	59.5	56.7	58.1	61.5	60.17	27.475	.489	29.920
	13	Mercury	- -	5	I-IX.	113 4 61.0	62.5	58.6	58.0	56.9	63.0	60.00	29.983	.987	29.913
	14	O. Arg. S. 16256	- -	2	IV, VI.	148 9 61.4	59.0	58.3	55.8	53.6	59.3	57.90	30.323	.341	29.880
	15	B. A. C. 5809	- -	5	III-VII.	158 54 62.4	60.4	61.0	59.9	54.5	61.1	59.88	31.168	.189	- -
	16	ξ Ophiuchi	- -	1	V.	149 49 63.0	61.0	60.9	57.8	55.5	61.0	59.87	30.145	.162	- -
	17	B. A. C. 5966	8.0	5	I-IX.	156 39 63.4	61.1	61.7	58.5	55.8	61.2	60.28	29.169	.199	- -
	18	β Sagittarii	6.0	5	III-VII.	" " "	"	"	"	"	"	"	33.731	.738	29.900
	19	O. Arg. S. 17340	9.0	1	V.	149 54 62.7	63.0	62.0	58.5	55.9	61.5	60.60	37.779	.782	- -
	20	Anon. 17h. 52m. 14s.	8.5	3	VI-IX.	166 54 63.4	61.8	63.1	60.8	56.3	61.4	61.13	31.689	.710	- -
	21	B. A. C. 6160	7.0	5	I-IX.	157 49 63.0	62.1	62.1	59.2	56.0	61.7	60.35	35.814	.832	- -
	22	B. A. C. 6222	- -	5	I-IX.	151 49 62.7	62.0	60.2	62.6	56.3	61.5	60.88	28.683	.697	29.902
	23	B. A. C. 6292	- -	1	V.	147 54 65.0	63.0	64.4	59.5	57.1	63.5	62.08	36.682	.685	- -
	24	B. A. C. 6301	- -	1	VIII.	" " "	"	"	"	"	"	"	28.015	.037	- -
	25	O. Arg. S. 18577	- -	5	I-IX.	148 14 60.1	57.2	58.1	53.8	51.8	56.2	56.20	26.619	.632	- -
	26	O. Arg. S. 18604	- -	1	IX.	" " "	"	"	"	"	"	"	22.054	.085	- -
	27	Victoria	- -	3	II-VIII.	136 24 59.9	60.5	58.0	54.5	54.5	59.5	57.82	35.850	.857	- -
	28	Eunomia	- -	1	V.	151 9 59.8	58.9	59.7	55.5	52.9	58.3	57.52	29.435	.446	- -
	29	δ Aquilæ	- -	5	I-IX.	126 4 60.7	59.9	59.0	54.5	54.5	59.2	57.97	35.749	.750	29.914
	30	O. Arg. S. 19909	- -	5	I-IX.	152 24 61.7	59.6	60.7	57.3	54.6	59.8	58.95	26.516	.535	- -
	31	α Aquilæ	- -	5	I-IX.	120 24 62.3	61.2	60.0	56.0	56.3	60.8	59.43	35.495	.500	- -
	32	Nadir 20h.	- -	5	- -	269 59 61.6	60.2	60.0	57.6	56.3	63.0	59.87*d*	29.898	.909	- -
	33	O. Arg. S. 20423	- -	4	III-VII.	146 9 58.3	58.4	58.9	53.9	54.0	58.0	56.92	35.042	.058	29.919
	34	B. A. C. 7147	- -	5	I-IX.	155 14 59.4	59.7	60.1	59.5	54.6	58.1	58.57	20.128	.156	- -
	35	B. A. C. 7205	- -	5	I-IX.	" " "	"	"	"	"	"	"	42.944	.965	- -
	36	O. Arg. S. 21129	- -	5	I-IX.	151 44 59.3	61.0	61.8	57.8	56.1	59.5	59.25	31.196	.224	29.917
	37	ζ Capricorni	- -	5	I-IX.	" " "	"	"	"	"	"	"	17.590	.606	- -
	38	Nadir 21h. 30m.	- -	3	- -	269 59 59.3	59.0	58.2	56.4	54.8	61.0	58.12	29.843	.849	- -
Aug. 1	39	O. Arg. S. 16100	7.8	1	V.	157 54 60.5	57.6	58.4	54.5	52.0	58.0	56.83	30.500	.508	29.937
	40	Weisse XVI, 958	8.0	1	V.	132 59 62.2	60.0	59.7	56.8	55.5	62.1	59.38	28.960	.970	- -
	41	Anon. 16h. 56m. 17s.	9.0	1	V.	157 34 62.9	59.5	60.5	57.5	54.7	59.4	59.08	30.547	.553	- -
	42	Anon. 17h. 4m. 34s.	7.7	5	I-IX.	133 19 63.0	61.0	61.0	56.9	56.6	63.1	60.27	28.112	.139	- -
	43	Anon. 17h. 14m. 38s.	- -	5	III-VII.	160 24 63.6	59.9	63.5	57.1	55.9	60.6	60.10	29.871	.882	- -
	44	B. A. C. 1706, S. P.	- -	4	VII-IV.	23 49 62.7	61.1	65.4	60.8	58.7	62.5	61.87	25.849	.876	29.952
	45	ψ^1 Draconis, (Ref.)	- -	3	III-V.	303 19 63.0	58.2	61.4	54.7	55.3	59.8	58.73	31.876	.901	- -
	46	ψ^1 Draconis	- -	3	VI-VIII.	56 39 61.0	58.5	63.0	58.6	57.8	65.1	60.67	28.008	.970	- -
	47	δ Ursæ Minoris, (Ref.)	- -	1	4.	317 39 61.5	58.0	60.5	52.3	55.0	58.5	57.63	26.210	.226	29.942
	48	Nadir 18h. 30m.	- -	3	- -	269 59 63.6	60.5	62.9	57.7	58.9	64.2	61.30*d*	29.950	.959	- -
	49	O. Arg. S. 18623	6.5	1	V.	149 59 63.0	60.3	62.5	57.6	55.9	59.8	59.85	29.799	.803	- -
	50	Lacaille 7873	- -	1	VII.	168 9 63.1	60.5	64.1	59.4	56.6	59.6	60.55	31.905	.924	- -
	51	B. A. C. 6677	8.0	5	III-VII.	157 19 62.6	60.9	63.0	58.5	55.9	60.0	60.15	28.067	.085	29.934
	52	O. Arg. S. 19880	7.5	1	V.	153 34 61.9	59.5	61.9	56.5	53.8	59.5	58.85	33.350	.365	- -
	53	β Aquilæ	- -	5	I-IX.	122 49 62.2	60.6	61.0	57.3	55.8	61.1	58.00	32.672	.672	- -
	54	Psyche	9.7	1	V.	147 9 63.0	60.2	62.1	57.2	55.9	60.6	59.83	27.317	.333	- -
	55	Neptune	- -	4	I-IX.	126 59 62.7	63.3	63.1	59.8	57.0	61.0	61.15	29.109	.124	29.869
	56	Nadir 0h. 45m.	- -	3	- -	269 59 62.4	62.7	63.9	61.9	57.5	63.4	61.97	29.980	.990	- -
2	57	Mercury, centre	- -	5	III-VII.	115 4 60.9	64.1	61.4	60.2	57.6	63.1	61.22	29.162	.177	29.832
3	58	κ Ophiuchi	- -	5	I-IX.	119 14 60.8	59.5	57.6	56.9	52.5	58.9	57.70	24.803	.803	29.754
	59	ϵ Ursæ Minoris	- -	3	1-5.	46 39 61.1	60.2	64.5	62.4	57.5	61.9	61.27	32.145	.161	- -
	60	Nadir 17h. 10m.	- -	3	- -	269 59 62.3	61.2	62.9	59.8	57.9	62.5	61.10	29.936	.945	- -
	61	B. A. C. 1706, S. P.	- -	5	VII-III.	23 49 61.6	63.0	66.0	64.0	58.4	61.1	62.35	25.775	.806	- -
	62	O. Arg. S. 17091	7.5	1	V.	152 9 61.7	61.0	63.1	59.8	55.3	60.3	60.20	32.625	.629	- -
	63	ω Draconis	- -	3	IV-VI.	60 4 60.0	58.4	63.4	60.2	56.4	62.5	60.15	30.665	.660	- -
	64	B. A. C. 6046	6.5	5	III-VII.	163 14 61.6	61.5	63.8	60.2	55.5	59.7	60.38	26.974	.989	29.759
	65	δ Ursæ Minoris	- -	5	1-5.	42 19 59.5	62.2	65.0	63.1	58.0	61.5	61.55	33.575	.578	29.752

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	″ ′	′ ″	° ′ ″	° ′ ″	″		
1	83.5	80.1	29.918	+ 1 44.5	— 26.9	243 46 15.1	+ 12 39 54.3	— 1.3	Ha.	
2	. .	. .	. .	— 1 40.8	+ 26.9	116 13 43.1	+ 12 39 56.1			
3	. .	. .	. .	— 3 42.5	2 10.9	157 28 25.9	— 28 34 46.7	+ 1.9		
4	. .	. .	. .	+ 1 53.1	+ 12.3	282 37 2.4	+ 51 30 41.6	— 16.3		
5	83.0	79.2	. .	— 1 49.1	— 12.3	77 22 58.8	+ 51 30 40.4			
6										
7	. .	. .	. .	+ 7 17.7	+ 1 44.4	152 23 59.5	— 23 30 20.3	20.1		
8	82.5	78.2	. .	— 5 21.9	1 43.5	152 11 19.0	23 17 39.8	— 20.7		
9	. .	. .	. .	1 17.8	57.6	136 24 37.3	7 30 58.1			
10	82.0	77.5	. .	1 39.5	1 39.7	151 14 59.0	— 22 21 19.8			
11	79.0	74.3	. .	— 26.1	41.5	127 0 14.4	+ 1 53 24.8			
12	84.3	95.0	29.909	+ 1 15.8	16 4.6	110 32 20.5	18 21 18.7		D.	Through clouds. Of little value.
13	84.5	95.8	. .	— 2.4	20.1	113 5 17.7	+ 15 48 21.5			
14	84.2	84.0	. .	13.5	1 27.2	148 11 11.6	— 19 17 32.4	+ 20.9		
15	. .	. .	. .	40.1	2 19.7	158 56 39.4	30 3 0.2	18.7		Faint.
16	. .	. .	. .	— 7.9	1 33.3	149 51 25.2	20 57 46.0	13.3		
17	. .	. .	. .	+ 22.2	2 5.5	156 42 27.9	27 48 48.7	6.8		Faint.
18	84.0	82.0	. .	— 2 0.0	2 5.3	156 40 5.5	27 46 26.3	+ 3.7		
19	. .	. .	. .	4 6.7	1 33.5	149 52 27.4	20 58 48.2	— 1.3		1 rev. less than Argelander.
20	. .	. .	. .	56.4	3 49.3	166 57 54.0	38 4 14.8	0.0		Missed wire VIII.
21	. .	. .	. .	— 3 5.6	2 12.7	157 49 7.4	28 55 28.2	7.2		
22	83.5	81.0	. .	+ 38.0	1 41.6	151 52 20.4	22 58 41.2	13.1		
23	. .	. .	. .	— 3 32.3	1 26.7	147 52 56.4	18 59 17.2	18.2		
24	. .	. .	. .	+ 58.7	1 27.0	147 57 27.7	19 3 48.5	18.7		
25	. .	. .	. .	1 42.7	1 28.2	148 18 7.1	19 24 27.9	23.2		
26	. .	. .	. .	+ 4 5.2	1 28.3	148 20 20.7	19 26 50.5	23.8		
27	. .	. .	. .	— 3 6.4	57.3	136 22 48.7	7 29 9.5			Probably 5 rev. = 2′ 36″.7 too great.
28	. .	. .	. .	+ 14.5	1 39.0	151 11 51.0	— 22 18 11.8			Several small stars in the field.
29	82.7	80.0	. .	— 3 3.0	39.8	126 2 34.7	+ 2 51 4.5	44.4		
30	. .	. .	. .	+ 1 45.7	1 44.6	152 28 29.2	— 23 34 50.0	49.0		
31	. .	79.3	. .	— 2 55.2	32.1	120 22 36.3	+ 8 31 2.9	54.3		
32										Ver good.
33	82.2	78.0	. .	— 2 41.3	1 21.6	146 8 37.2	— 17 14 58.0	63.6		Missed wire VI.
34	. .	. .	. .	+ 5 5.6	1 59.2	155 22 3.3	26 28 24.1	70.5		
35	. .	77.1	. .	— 6 49.1	1 58.2	155 10 7.6	26 16 28.4	73.3		
36	81.7	75.0	. .	— 41.2	1 42.4	151 46 0.4	22 52 21.2	79.5		
37	. .	. .	. .	+ 6 25.5	1 43.2	151 53 7.9	22 59 28.7	— 85.1		
38										
39	85.5	85.9	29.921	— 18.4	2 12.5	157 56 50.9	29 3 11.7	+ 27.4	N.	
40	. .	. .	. .	+ 29.8	50.5	133 1 19.6	4 7 40.4	18.3		Error of 1′ in Weisse's reduction from B. Z.
41	. .	. .	. .	— 19.8	2 10.5	157 36 49.7	28 43 10.5	23.3		
42	. .	. .	. .	+ 55.8	51.2	133 21 47.2	4 28 8.0			C. R. recorded 153°.
43	. .	. .	. .	1.2	+ 2 31.1	160 27 32.4	— 31 33 53.2	15.9		
44	85.5	84.7	. .	+ 2 6.8	— 2 2.0	23 50 6.6	+ 74 56 27.3	+ 2.9		
45	. .	. .	. .	— 1 2.0	+ 35.8	303 19 32.5	72 13 11.8	— 14.2		
46	. .	. .	. .	+ 1 1.1	— 35.8	56 40 25.9	72 13 13.3			
47	. .	82.2	. .	1 55.8	+ 59.9	317 42 53.3	+ 86 36 32.5	25.1		
48										
49	. .	. .	. .	+ 3.7	1 34.2	150 1 37.7	— 21 7 58.5	23.9		
50	. .	. .	. .	— 1 2.8	4 13.2	168 13 10.9	39 19 31.7	22.7		
51	. .	81.5	. .	+ 57.5	2 10.0	157 23 7.6	28 29 28.4	42.9		
52	. .	. .	. .	— 1 47.9	1 49.3	153 35 0.2	— 24 41 21.0	48.0		
53	. .	. .	. .	— 1 26.2	35.2	122 49 7.0	+ 6 4 32.2	— 56.1		
54	. .	. .	. .	+ 1 21.1	1 24.6	147 12 45.5	— 18 19 6.3			
55	80.2	75.7	. .	25.0	41.4	127 1 7.5	+ 1 52 31.7			Missed wire III.
56										
57	84.0	89.8	29.912	23.0	22.3	115 5 46.5	13 47 52.7		Ha.	
58	81.0	75.2	. .	+ 2 40.1	+ 30.8	119 18 8.6	9 35 30.6	+ 14.3	N.	
59	. .	. .	. .	— 1 10.5	— 51.8	46 37 58.9	82 15 40.3	2.1		
60										
61	. .	74.7	. .	+ 2 8.7	— 2 3.6	23 50 7.4	+ 74 56 28.1	3.2		
62	. .	. .	. .	— 1 25.1	+ 1 43.8	152 10 18.9	— 23 16 39.7	+ 5.0		
63	. .	. .	. .	— 23.4	— 31.7	60 4 5.0	+ 68 49 34.2	— 12.1		Unsteady.
64	80.0	74.0	. .	+ 1 31.6	+ 3 0.8	163 19 32.7	— 34 25 53.5	+ 2.6		
65	79.0	74.0	. .	— 1 54.9	— 1 0.4	42 17 6.2	+ 86 36 33.0	— 25.5		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
1864.															
Aug. 3	1	*α* Lyræ		5	I–IX.	90 14 62.3	64.0	65.0	62.0	58.4	63.6	62.55	32.323	.319	
	2	Lalande 34916	7.3	5	III–VII.	148 9 62.0	60.6	62.6	60.0	53.9	57.8	59.48	30.861	.870	
	3	*γ* Aquilæ		4	I–VII.	118 34 62.0	61.6	60.5	59.7	54.7	59.6	59.68	28.443	.450	29.761
	4	*β* Aquilæ		1	V.	122 49 62.2	62.9	63.1	61.9	55.6	61.5	61.20	32.711	.714	
	5	B. A. C. 6969		1	V.	92 29 61.6	63.6	64.3	63.1	57.2	62.5	62.05	30.390	.403	
	6	B. A. C. 6992	6.5:	3	I–IX.	144 4 60.6	61.1	62.6	59.0	54.8	58.5	59.43	30.466	.485	
	7	*β* Capricorni		3	II, V, IX.	" " "	"	"	"	"	"	"	30.787	.797	
	8	O. Arg. S. 20544		5	I–IX.	152 9 62.7	62.1	65.0	62.3	56.1	61.0	61.53	31.324	.351	29.752
4	9	*ξ* Draconis		5	III–VII.	71 59 61.1	63.0	63.3	62.9	58.9	64.5	62.28	30.133	.138	29.872
	10	Lalande 34916	8.0	5	III–VII.	148 9 60.8	61.2	61.7	59.2	54.1	57.4	59.07	30.872	.881	29.875
	11	*ν*¹ Sagittarii	6.0	1	V.	151 44 60.8	61.3	55.1	60.0	62.4	58.1	59.62	27.490	.499	
	12	Anon. 18h. 46m. 7s.	8.0	1	VII.	" " "	"	"	"	"	"	"	34.100	.122	
	13	*ν*² Sagittarii	7.0	1	VII.	" " "	"	"	"	"	"	"	35.651	.660	
	14	Lacaille 7962	7.0	5	III–VII.	167 14 60.0	62.4	63.3	61.4	56.0	58.0	60.18	27.567	.578	
	15	Lacaille 8045	8.5	1	V.	162 34 60.6	61.2	62.9	59.9	54.3	58.0	59.48	27.471	.481	
	16	B. A. C. 6607	6.5	1	V.	151 29 61.1	62.0	62.9	60.5	55.1	58.5	60.02	28.303	.319	
	17	*α* Aquilæ		5	III–VII.	120 19 59.9	61.8	60.1	58.8	55.2	58.1	58.98	25.944	.952	29.872
	18	Nadir 19h. 56m.		3		269 59 61.5	62.6	57.2	61.0	62.8	61.4	61.08	29.936	.945	
	19	*λ* Ursæ Minoris		3	V.	39 59 61.6	66.0	66.9	67.2	60.0	64.2	64.32	29.370	.384	29.884
	20	*α* Canis Majoris		5	I–IX.	145 24 59.5	61.8	61.4	59.2	54.5	57.5	58.98	31.237	.262	30.003
5	21	Sun N. L.		4	I–IV.	111 49 62.8	66.5	64.2	63.4	60.0	63.1	63.33	30.425	.417	
	22	Sun S. L.		4	VI–IX.	112 19 58.8	61.9	59.0	58.2	56.5	58.3	58.78	27.124	.147	30.008
	23	Mercury		5	I–IX.	117 9 60.0	62.8		59.0	56.1	60.4	60.07	30.594	.593	29.998
	24	*ξ* Ophiuchi	5.0	1	VII.	149 49 61.5	60.9	62.4	59.4	55.8	60.1	60.02	30.191	.213	30.043
	25	B. A. C. 1706, S. P.		4	IV–I.	23 49 60.4	61.9	64.3	62.0	58.0	60.3	61.15	25.710	.803	
	26	B. A. C. 5989	7.7:	5	III–VII.	152 29 61.8	61.2	62.7	59.5	55.9	60.7	60.30	32.614	.621	
	27	B. A. C. 6023		1	V.	152 59 62.0	61.2	63.0	60.0	56.0	60.9	60.52	27.428	.440	30.042
	28	*δ* Ursæ Minoris		5	III–VII.	42 19 59.1	61.3	63.5	60.9	58.5	61.4	60.78	33.589	.591	30.054
	29	O. Arg. S. 18315	9.0	1	V.	150 29 59.9	60.5	62.5	58.9	55.0	59.0	59.30	32.302	.318	
	30	*α* Lyræ		4	V–IX.	90 14 60.3	62.7	62.6	59.5	58.0	62.9	61.00	32.290	.289	
	31	Nadir 19h. 30m.		4		269 59 60.0	61.7	61.2	59.0	57.0	61.0	59.98	29.906	.915	
	32	Anon. 19h. 36m 29s.	7.0	1	V.	152 4 60.4	60.6	62.8	59.0	56.0	59.2	59.67	35.132	.149	30.064
	33	*g* Sagittarii	5.5:	5	III–VII.	144 44 60.9	61.5	61.0	56.6	56.4	58.5	59.15	33.734	.739	
	34	O. Arg. S. 20246	7.7	5	I–IX.	153 9 60.8	60.4	62.9	59.0	54.9	59.2	59.53	34.179	.207	
	35	Anon. 20h. 5m 15s.	9.0:	1	V.	143 4 61.2	63.5	63.1	60.0	56.1	60.2	60.68	32.253	.270	
	36	*a*¹ Capricorni		1	I.	141 49 60.4	60.6	62.4	58.3	54.8	58.5	59.17	34.302	.329	
	37	*a*² Capricorni		5	I–IX.	" " "	"	"	"	"	"	"	29.937	.951	30.065
8	38	Sun S. L.		4	I–IV.	113 9 60.5	62.8	61.0	59.4	57.3	62.3	60.55	26.297	.292	
	39	Sun N. L		4	VI–IX.	112 39 59.8	63.2	61.0	58.1	58.0	61.8	60.32	29.274	.298	30.188
9	40	Sun N. L.		4	I–IV.	112 54 60.2	62.0	61.5	59.1	57.0	61.6	60.23	24.800	.783	30.060
	41	Sun S. L.		4	VI–IX.	113 29 60.9	62.5	59.3	58.4	55.8	60.0	59.48	31.280	.303	
	42	*ω* Draconis		5	III–VII.	60 4 60.3	59.0	62.4	58.2	57.9	64.1	60.32	30.767	.751	30.002
	43	*δ* Ursæ Minoris		5	I–5.	42 19 60.1	60.9	63.2	60.0	58.8	62.1	60.85	33.623	.625	30.008
	44	*α* Lyræ		5	III–VII.	90 14 60.4	61.0	60.0	57.1	57.0	62.2	59.62	32.273	.284	
	45	*β* Lyræ		5	III–VII.	95 39 61.0	62.3	62.2	58.8	58.4	63.6	61.05	28.405	.413	30.008
	46	*α* Aquilæ, (Ref.)		4	I–IV.	239 34 61.0	57.7	62.7	57.3	57.3	62.8	59.80	24.264	.285	
	47	*α* Aquilæ		4	VI–IX.	120 19 60.8	60.3	58.9	55.8	55.4	59.0	58.37	25.930	.934	30.006
	48	Weisse XIX, 1319	8.0	5	III–VII.	143 9 60.6	60.0	59.6	56.3	55.2	58.2	58.32	28.353	.370	
	49	Nadir		3		269 59 62.1	60.0	60.1	57.3	56.5	61.6	59.60*d*	29.885	.895	
	50	Neptune		5	III–VII.	127 4 62.0	63.0	61.6	59.7	56.5	61.1	60.65	33.145	.162	29.976
10	51	Sun S. L.		4	I–IV.	113 44 61.5	62.8	60.0	58.9	57.5	62.0	60.45	26.302	.297	29.988
	52	Sun N. L.		4	VI–IX.	113 14 60.9	61.2	59.2	57.0	56.8	60.2	59.22	29.414	.435	
	53	Mercury, centre		1	V.	120 39 60.2	59.2	57.0	54.3	55.2	59.0	57.48	30.275	.292	29.972
	54	Nadir 18h. 25m.		3		269 59 60.0	56.8	57.1	52.7	55.0	60.0	56.93	29.798	.802	
11	55	Sun N. L.		4	I–IV.	113 34 60.4	61.0	58.2	58.1	56.4	61.1	59.20	33.484	.472	29.982
	56	Sun S. L.		4	VI–IX.	114 4 60.8	61.3	59.2	58.5	57.0	61.2	59.67	30.318	.342	
12	57	Sun S. L.		4	I–IV.	114 24 61.1	62.2	60.0	58.7	56.6	61.6	60.03	34.030	.022	30.048
	58	Sun N. L.		4	VI–IX.	113 49 61.1	62.5	59.9	59.0	57.0	60.8	60.05	27.530	.545	
	59	Venus, centre		5	III–VII.	115 4 60.6	61.5	58.5	57.1	56.7	61.5	59.32	27.732	.733	30.040
	60	Mercury, centre		1	V.	122 4 59.8	59.8	57.1	54.5	53.9	58.7	57.30	32.805	.809	30.032
	61	*δ* Ursæ Minoris		5	I–5.	42 19 60.0	60.5	62.6	58.6	58.4	61.4	60.25	33.628	.629	30.022
	62	*α* Lyræ		5	III–VII.	90 14 62.9	62.9	62.0	58.3	59.0	64.4	61.58	33.343	.352	
	63	*β* Lyræ		5	III–VII.	95 39 63.6	63.1	64.1	59.8	60.2	65.1	62.65	28.433	.440	30.022
	64	*β* Aquilæ, (Ref.)		4	I–IV.	237 9 62.4	57.9	61.1	57.7	57.0	63.4	59.92	27.094	.112	
	65	*β* Aquilæ		4	VI–IX.	122 49 62.0	60.8	60.2	57.2	55.1	61.2	59.42	32.682	.683	30.036

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.912	— 1 15.4	+ 0.2	90 13 47.3	+ 38 39 51.9	— 30.9	N.	
2	. .	73.5	. .	— 30.0	1 28.4	148 10 57.8	— 19 17 18.6	26.1		
3	78.0	73.3	. .	+ 45.8	30.1	118 36 15.5	+ 10 17 23.7	53.4		Cloudy.
4	. .	. .	. .	— 1 27.8	35.6	122 49 9.0	6 4 30.2	56.2		Hardly visible
5	. .	. .	. .	15.4	2.4	92 29 49.0	+ 36 23 50.2	63.6		
6	. .	. .	. .	17.9	1 16.1	144 5 57.6	— 15 12 18.4	63.8		
7	. .	. .	. .	27.7	1 16.1	144 5 47.8	15 12 8.6	63.8		
8	77.5	72.3	. .	45.1	+ 1 44.2	152 11 0.6	— 23 17 21.4	66.4		
9	80.0	75.4	. .	7.1	— 17.9	71 59 37.2	+ 56 54 2.0	17.0	Ha.	
10	79.0	73.9	. .	— 30.4	+ 1 28.8	148 10 57.4	— 19 17 18.2	26.1		
11	. .	. .	. .	+ 1 15.6	1 42.6	151 47 57.8	22 54 18.6	27.3		
12	. .	. .	. .	— 2 11.9	1 42.4	151 44 30.1	22 50 50.9	27.4		
13	. .	. .	. .	— 3 0.1	1 42.3	151 43 41.8	22 50 2.6	27.7		
14	. .	. .	. .	+ 1 13.1	3 59.3	167 20 12.5	38 26 33.3	26.7		
15	. .	. .	. .	1 16.2	2 54.6	162 39 10.2	33 45 31.0	34.6		
16	. .	. .	. .	49.9	1 41.7	151 32 31.6	— 22 38 52.4	38.9		
17	78.0	71.8	. .	2 4.1	+ 32.5	120 22 35.5	+ 8 31 3.7	55.0		
18										
19	77.0	71.4	. .	+ 16.5	— 1 6.1	39 59 14.7	+ 88 54 24.5	— 58.9		
20	77.6	81.9	. .	— 42.3	+ 1 19.1	145 25 35.7	— 16 31 56.5	+ 14.8	N.	Blurred.
21	. .	. .	. .	— 15.8	18.6	111 50 6.1	+ 16 47 43.9			Unsteady and blurred.
22	79.7	87.4	. .	+ 1 26.6	19.1	112 21 44.4				
23	81.3	89.3	. .	— 21.3	24.6	117 10 3.3	+ 11 43 35.9			Circle div. under mic. C obliterated. + 0″.25
24	81.0	78.3	. .	— 9.4	+ 1 34.6	149 51 25.2	— 20 57 46.0	13.8		added to mean of microscopes A, B, E, F.
25	. .	. .	. .	+ 2 8.8	— 2 4.0	23 50 5.9	+ 74 56 26.7	3.4		Steady.
26	. .	. .	. .	— 1 24.9	+ 1 45.6	152 30 21.0	— 23 36 41.8	4.2		
27	. .	77.2	. .	+ 1 17.5	+ 1 48.1	153 3 6.1	— 24 9 26.9	+ 1.9		
28	. .	76.4	. .	— 1 55.3	— 1 0.8	42 17 4.6	+ 86 36 34.6	— 26.0		
29	. .	. .	. .	1 15.4	+ 1 37.4	150 30 21.3	— 21 36 42.1	17.3		
30	. .	. .	. .	1 14.5	0.2	90 13 46.7	+ 38 39 52.5	31.3		Missed wire VII
31										
32	78.7	74.7	. .	2 44.1	1 44.2	152 3 59.7	— 23 10 20.5	48.7		
33	. .	. .	. .	1 59.9	1 18.4	144 44 17.6	15 50 38.4	55.1		
34	. .	. .	. .	2 14.6	1 49.2	153 9 34.1	24 15 54.9	57.9		
35	. .	. .	. .	1 13.9	1 13.8	143 5 0.5	14 11 21.3	60.9		
36	. .	. .	. .	2 18.4	1 10.6	141 48 51.3	12 55 12.1	62.8		
37	. .	74.0	. .	— 1.2	1 10.7	141 51 8.6	— 12 57 29.4	63.0		Clouds up.
38	. .	. .	29.908	+ 1 53.3	19.9	113 12 13.7				
39	81.7	90.0	. .	19.1	19.4	112 40 38.8	+ 15 57 13.0			Well defined.
40	84.0	90.0	. .	+ 2 40.6	19.6	112 58 0.4			Ha.	
41	. .	. .	. .	— 43.7	+ 20.1	113 29 35.8	15 39 51.1			
42	82.5	79.0	. .	26.4	— 31.7	60 4 2.2	68 49 37.0	13.4		
43	82.0	78.5	. .	1 56.5	— 1 0.4	42 17 3.9	86 36 35.3	27.0		
44	. .	. .	. .	— 1 14.4	+ 0.2	90 13 45.4	38 39 53.8	32.3		
45	82.0	78.0	. .	+ 46.8	+ 5.5	95 40 53.3	33 12 45.9	36.6		
46	. .	. .	. .	2 56.2	— 32.3	239 37 23.7	8 31 3.0	55.7		
47	81.0	77.5	. .	2 4.5	+ 32.3	120 22 35.1	+ 8 31 4.1	55.7		
48	. .	. .	. .	+ 48.2	1 13.6	143 12 0.1	— 14 18 20.9	56.7		
49										Looked for Ariadne, but it was too faint to
50	78.0	73.6	. .	— 1 42.0	41.7	127 4 0.3	+ 1 49 38.9			observe.
51	85.0	92.0	29.900	+ 1 52.9	20.2	113 47 13.5				
52	. .	. .	. .	+ 14.6	19.7	113 15 33.5	15 22 15.7			
53	87.0	94.4	. .	— 12.3	28.0	120 40 13.1	8 13 26.1			
54										
55	85.5	95.8	. .	1 51.9	19.9	113 33 27.2				
56	. .	. .	. .	13.8	20.4	114 5 6.2	15 4 22.5			
57	85.5	92.8	29.889	— 2 9.5	20.8	114 23 11.3				
58	. .	. .	. .	+ 1 13.4	20.3	113 51 33.7	14 46 16.7			
59	86.0	93.8	. .	+ 1 7.6	23.0	115 6 29.9	13 47 9.3			
60	87.0	95.1	. .	— 1 31.5	+ 29.6	122 3 55.4	6 49 43.8			
61	86.0	83.8	. .	1 57.2	— 59.8	42 17 3.2	86 36 36.0	27.7		
62	. .	. .	. .	— 1 17.2	+ 0.2	90 13 44.5	38 39 54.7	33.0		
63	85.5	82.6	. .	+ 45.4	+ 5.4	95 40 53.4	33 12 45.8	37.3		
64	. .	. .	. .	+ 1 27.0	— 35.3	237 10 51.6	6 4 30.9	— 57.6		
65	84.5	81.1	. .	— 1 27.5	+ 35.3	122 49 7.2	+ 6 4 32.0			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Aug. 12	1	α^1 Capricorni	- -	1	V.	141 49 62.0	59.0	60.1	56.5	53.8	59.0	58.40	34.198	.215	- -
	2	α^2 Capricorni	- -	4	VI–IX.	" " "	"	"	"	"	"	"	29.866	.877	- -
	3	α Cygni, (Ref.)	- -	4	I–IV.	275 54 62.8	59.2	61.5	57.8	58.0	62.0	60.22	31.073	.112	- -
	4	α Cygni	- -	2	VIII, IX.	84 4 62.3	61.9	64.0	60.2	59.1	64.6	62.02	28.800	.765	30.032
	5	Nadir 20h. 50m.	- -	3	- -	269 59 62.6	60.0	60.6	57.9	56.5	62.0	59.93	29.880	.887	- -
13	6	Sun N. L.	- -	4	I–IV.	114 9 62.1	63.5	61.8	59.9	57.8	63.0	61.35	30.825	.808	30.006
	7	Sun S. L.	- -	4	VI–IX.	114 39 62.1	63.5	61.0	59.4	58.0	63.2	61.20	27.644	.656	- -
	8	Venus, centre	- -	5	III–VII.	115 29 61.9	62.9	59.4	57.2	57.4	63.0	60.30	27.135	.149	30.000
15	9	δ Ursæ Minoris	- -	3	- -	42 19 60.1	63.0	65.0	63.3	58.3	62.0	61.95	33.724	.685	30.094
	10	δ Ursæ Minoris, (Ref.)	- -	2	4, 5.	317 39 60.4	60.6	61.0	55.2	54.6	57.4	58.20	26.112	.130	- -
	11	α Lyræ	- -	5	III–VII.	90 14 60.9	62.0	61.5	59.8	56.5	61.6	60.39	32.306	.316	- -
	12	O. Arg. S. 18564	7.5	4	VI–IX.	149 19 60.1	59.8	60.5	58.0	52.6	56.0	57.83	33.240	.266	- -
	13	O. Arg. S. 18625	8.0	5	III–VII.	149 39 58.8	57.4	58.1	56.0	51.4	54.0	55.95	31.934	.946	30.094
	14	Nadir 19h. 55m.	- -	3	- -	269 59 61.2	59.8	60.8	59.0	55.7	60.6	59.52*d*	29.861	.867	- -
	15	Moon N. L.	- -	5	III–VII.	143 59 59.9	60.0	59.5	57.8	54.0	57.0	58.03	28.132	.149	30.090
17	16	Sun S. L.	- -	4	I–IV.	115 54 59.0	58.1	55.8	53.0	54.0	59.0	56.48	26.436	.426	29.972
	17	Sun N. L.	- -	4	VI–IX.	115 24 59.6	59.5	57.2	54.6	55.9	61.0	57.97	29.661	.673	- -
18	18	Nadir 7h. 30m.	- -	3	- -	269 59 61.6	61.8	61.4	59.8	57.0	60.6	60.37	29.879	.889	- -
23	19	Sun N. L.	- -	4	I–IV.	117 24 63.0	65.1	61.1	58.2	59.1	61.6	61.35	30.830	.813	30.136
	20	Sun S. L.	- -	4	VI–IX.	117 54 65.9	66.2	62.2	60.2	61.4	63.3	63.20	27.609	.624	- -
	21	Venus, centre	- -	5	III–VII.	120 4 63.0	65.8	61.0	58.9	60.5	63.0	62.03	35.121	.136	30.130
	22	δ Ursæ Minoris	- -	3	- -	42 19 64.0	68.0	68.1	65.9	65.1	67.0	66.35	33.862	.822	30.110
	23	α Lyræ	- -	5	III–VII.	90 14 62.0	65.8	62.1	61.4	60.2	64.9	62.73	32.416	.422	- -
	24	β Lyræ	- -	5	III–VII.	95 39 62.0	65.4	63.2	61.8	62.0	65.7	63.35	28.529	.531	30.108
	25	Nadir 21h. 0m.	- -	3	- -	269 59 62.3	65.0	63.3	62.1	61.0	63.8	62.92*d*	29.965	.975	- -
24	26	Sun S. L.	- -	4	I–IV.	118 14 62.0	65.0	60.0	59.4	58.6	63.7	61.45	26.492	.480	30.100
	27	Sun N. L.	- -	4	VI–IX.	117 44 63.0	67.0	60.8	60.6	60.1	63.9	62.57	29.709	.724	- -
	28	Venus, centre	- -	1	V.	120 29 61.9	63.8	60.4	59.1	59.5	62.0	61.12	28.195	.212	30.088
25	29	Sun N. L.	- -	4	I–IV.	118 4 60.8	61.1	58.2	57.5	57.1	61.1	59.30	28.153	.149	29.942
	30	Sun S. L.	- -	4	VI–IX.	118 39 60.5	62.1	58.0	57.5	57.0	60.3	59.23	34.489	.510	- -
	31	Nadir 10h. 40m.	- -	3	- -	269 59 60.0	59.0	59.5	56.2	57.7	61.4	58.97	29.839	.849	- -
26	32	Sun S. L.	- -	4	I–IV.	118 59 61.9	65.0	60.9	61.1	60.0	63.8	62.12	32.892	.878	29.944
	33	Sun N. L.	- -	4	VI–IX.	118 24 61.0	65.8	61.3	59.5	59.5	62.1	61.53	26.468	.490	- -
27	34	Sun N. L.	- -	4	I, IV, VI, IX.	118 49 61.0	64.0	60.0	59.0	58.0	62.0	60.67	34.005	.012	29.682
	35	Nadir 10h. 50m.	- -	3	- -	269 59 60.9	61.2	61.8	58.9	60.1	63.3	61.03	29.907	.917	- -
29	36	Sun N. L.	- -	4	I–IV.	119 29 60.6	65.5	61.5	59.9	58.1	60.6	61.03	29.033	.025	29.926
	37	Sun S. L.	- -	4	VI–IX.	119 59 61.8	65.6	63.0	61.0	60.1	61.1	62.10	25.668	.684	- -
	38	δ Ursæ Minoris	- -	5	- -	42 19 63.0	68.9	69.8	69.0	65.1	66.4	67.03	33.938	.890	29.954
	39	α Lyræ	- -	5	III–VII.	90 14 58.7	63.6	62.2	60.4	57.6	61.6	60.68	32.401	.408	- -
	40	Lacaille 7854	7.5	5	III–VII.	168 34 58.5	61.1	63.2	60.6	55.0	57.2	59.27	32.108	.130	- -
	41	β Lyræ	- -	3	III–VII.	95 39 58.6	64.9	64.8	62.0	59.7	62.3	62.05	28.538	.539	- -
	42	β Lyræ, (Comp.)	- -	2	VIII, IX.	" " "	"	"	"	"	"	"	27.307	.298	29.958
	43	O. Arg. S. 20339	8.5	1	VI.	144 39 58.0	63.5	60.6	58.6	56.1	57.0	58.97	36.362	.377	29.974
	44	B. A. C. 7049	7.0	5	III–VII.	151 39 58.0	63.3	62.8	60.9	55.3	57.1	59.57	26.108	.127	- -
	45	B. A. C. 7113	7.0	5	III–VII.	153 34 60.3	64.9	64.1	62.6	55.9	59.5	61.22	32.964	.977	- -
	46	O. Arg. S. 20819	7.5	1	V.	153 4 59.8	63.6	65.4	63.1	56.9	60.0	61.47	31.010	.022	- -
	47	B. A. C. 7244	7.0	5	III–VII.	153 39 60.0	64.0	64.0	62.3	56.1	59.1	60.92	32.057	.074	29.976
	48	O. Arg. S. 21053	7.5	1	V.	148 39 59.9	64.1	64.0	62.1	56.1	58.0	60.70	32.584	.589	- -
	49	f^2 Cygni	- -	1	V.	81 49 60.6	66.0	66.5	65.3	61.1	63.3	63.80	25.461	.471	29.976
	50	Nadir	- -	5	- -	269 59 61.0	65.8	65.3	65.1	59.9	63.0	63.35	29.993	.005	- -
30	51	Sun S. L.	- -	4	I–IV.	120 24 60.6	67.1	63.7	63.7	59.7	60.9	62.62	32.296	.291	30.054
	52	Sun N. L.	- -	4	VI–IX.	119 49 61.0	66.8	62.9	62.8	59.0	60.0	62.08	26.024	.050	- -
	53	Venus, centre	- -	5	III–VII.	123 24 61.5	67.5	65.4	64.8	60.8	62.2	63.70	26.411	.422	30.054
	54	O. Arg. S. 18198	- -	1	VII.	149 59 63.3	65.8	66.9	64.6	60.8	61.2	63.77	33.071	.092	30.062
	55	O. Arg. S. 18577	7.0	1	V.	148 14 60.5	62.0	64.0	60.6	57.0	57.4	60.25	26.819	.823	30.061
	56	O. Arg. S. 18604	7.3	1	V.	" " "	"	"	"	"	"	"	22.295	.311	- -
	57	Nadir 20h. 12m.	- -	4	- -	269 59 61.2	64.9	65.6	63.8	60.5	62.8	63.13	29.952	.962	- -
	58	B. A. C. 7111	- -	5	I–IX.	151 44 61.9	65.8	67.1	64.2	59.6	61.0	63.27	27.227	.255	30.079
31	59	55 Camelopardi, S. P.	- -	5	VII–III.	17 49 60.5	68.8	68.9	69.2	61.7	60.3	64.90	33.116	.152	30.134
	60	B. A. C. 7039	7.5	1	V.	153 19 59.5	65.4	65.0	63.3	57.0	58.3	61.42	14.994	.005	- -
	61	B. A. C. 7040	7.5	1	VII.	" " "	"	"	"	"	"	"	35.309	.331	- -
	62	Lacaille 8513	8.0	1	V.	164 59 59.0	64.6	63.3	64.4	57.1	58.1	61.08	17.821	.825	- -
	63	Lacaille 8540	7.5	1	V.	" " "	"	"	"	"	"	"	13.075	.090	- -

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.889	— 2 15.6	+ 1 9.5	141 48 52.3	— 12 55 13.1	— 63.2	Ha.	
2	. .	. .	. .	+ 0.4	1 9.7	141 51 8.4	— 12 57 29.2	63.3		
3	. .	. .	. .	— 38.3	+ 5.7	275 54 27.6	+ 44 48 6.9	73.6		
4	84.0	80.6	. .	+ 35.2	— 5.7	84 5 31.5	44 48 7.7			
5										
6	86.5	93.3	. .	— 28.8	+ 20.6	114 9 53.1	14 27 56.5			
7	. .	. .	. .	+ 1 10.0	21.1	114 41 32.3				
8	87.5	94.5	. .	+ 1 25.8	+ 23.4	115 31 49.5	13 21 49.7			
9	80.5	76.8	. .	— 1 59.2	— 1 0.8	42 17 1.9	86 36 37.3	28.3		At 18h. 19m. 2s., 19m. 32s., and 20m. 2s.
10	. .	. .	. .	+ 1 57.6	+ 1 0.8	317 42 56.6	86 36 35.8			If record is correct the reflection observation
11	. .	. .	. .	— 1 16.3	0.2	90 13 44.2	+ 38 39 55.0	33.6		must have been taken first.
12	. .	. .	. .	1 46.0	1 33.1	149 19 44.9	— 20 26 5.7	22.7		
13	80.5	76.6	. .	— 1 4.7	+ 1 34.3	149 40 25.5	20 46 46.3	23.9		
14										
15	80.0	76.6	29.882	+ 54.3	— 31 12.7	143 29 39.6	— 14 36 0.4			Clouded up.
16	85.5	94.5	29.877	1 48.1	+ 22.3	115 57 6.8	+ 13 12 22.8			
17	. .	. .	. .	+ 6.4	21.8	115 25 26.1				
18										
19	78.0	81.5	29.882	— 29.2	24.6	117 24 56.7	11 12 51.3			Limb unsteady and undulating.
20	. .	. .	. .	+ 1 10.8	25.2	117 56 39.2				[dense haze.
21	79.0	82.6	. .	— 2 44.6	+ 29.2	120 2 46.6	8 50 52.6			Disc not defined at all. Observed through
22	78.0	72.7	. .	2 3.4	— 1 1.3	42 17 1.6	86 36 37.6	30.0		At 18h. 19m. 10s., 19m. 40s., and 20m. 10s.
23	. .	. .	. .	— 1 19.6	+ 0.2	90 13 43.3	38 39 55.9	35.0		
24	77.5	72.1	. .	+ 42.3	5.6	95 40 51.2	33 12 48.0	39.3		Cloudy all the rest of the evening.
25										
26	79.0	84.5	. .	1 46.6	25.4	118 17 13.4	10 52 16.4			
27	. .	. .	. .	4.9	24.8	117 45 32.2				
28	79.5	85.5	. .	52.3	29.6	120 31 23.0	8 22 16.2			Through openings in clouds.
29	80.0	90.0	. .	+ 54.3	24.8	118 6 18.4	10 31 30.3			
30	. .	. .	. .	— 2 25.0	25.3	118 37 59.5				
31										
32	79.5	84.2	29.884	— 1 33.8	26.0	118 58 54.3	10 10 35.5			
33	. .	. .	. .	+ 1 46.3	25.4	118 27 13.2				
34	80.5	83.6	. .	— 2 9.3	16 18.3	119 4 9.6	9 49 29.6			
35										
36	77.5	79.8	29.898	+ 27.3	26.8	119 30 55.1	9 6 50.9			
37	. .	. .	. .	+ 2 12.0	+ 27.4	120 2 41.5				
38	75.0	69.1	. .	— 2 5.1	— 1 1.4	42 17 0.5	86 36 38.7	30.7		From 18h. 19m. 11s. to 21m. 11s.
39	. .	. .	. .	1 18.7	+ 0.2	90 13 42.1	+ 38 39 57.1	36.0		
40	. .	. .	. .	— 1 9.9	4 29.2	168 38 18.5	— 39 44 39.3	18.8		
41	. .	. .	. .	+ 42.6	5.6	95 40 50.2	+ 33 12 49.0	40.2		
42	74.5	68.0	. .	+ 1 21.5	5.6	95 41 29.1	+ 33 12 10.1	40.2		
43	72.5	65.3	. .	— 3 23.0	1 19.2	144 37 55.1	— 15 44 15.9	61.7		
44	. .	. .	. .	+ 1 58.2	1 44.4	151 43 42.1	22 50 2.9	65.6		
45	. .	. .	. .	— 1 36.5	1 53.0	153 35 17.7	24 41 38.5	68.3		
46	. .	. .	. .	35.2	1 50.7	153 6 16.9	24 12 37.7	71.3		
47	71.5	64.8	. .	1 8.2	1 53.5	153 40 46.2	24 47 7.0	73.8		
48	. .	. .	. .	1 24.3	+ 1 32.4	148 40 8.8	— 19 46 29.6	77.6		
49	71.0	64.0	. .	2 54.6	— 8.2	81 47 1.0	+ 47 6 38.2	84.6		Bar. and therm. read at 21h. 10m.
50										Impossible to get an accurate bisection, because the image is constantly moving about.
51	74.0	75.8	29.862	— 1 16.1	+ 28.2	120 24 14.7	8 45 17.4			
52	. .	. .	. .	+ 1 59.4	27.6	119 52 29.0				
53	75.0	76.7	. .	+ 1 47.8	33.8	123 27 25.3	+ 5 26 13.9			
54	73.0	67.5	. .	— 1 41.2	1 37.1	149 59 59.6	— 21 6 20.4	14.9	N.	
55	72.5	67.0	. .	+ 1 35.2	1 30.9	148 18 6.3	19 24 27.1	23.1		
56	. .	. .	. .	3 56.6	1 31.1	148 20 27.9	19 26 48.7	24.1		
57										
58	71.0	66.7	. .	+ 1 21.7	+ 1 44.8	151 48 9.7	— 22 54 30.5	— 67.5		
59	68.0	61.0	29.875	— 1 42.7	— 2 56.1	17 45 26.1	+ 68 51 46.8	+ 62.5	Ha.	
60	. .	. .	. .	+ 7 45.9	+ 1 54.2	153 29 41.5	— 24 36 2.3	— 64.7		
61	. .	. .	. .	— 2 51.0	1 53.4	153 19 3.8	24 25 24.6	64.8		
62	. .	. .	. .	+ 6 17.6	3 32.1	165 9 50.7	36 16 11.5	66.3		
63	. .	. .	. .	+ 8 45.9	+ 3 32.8	165 12 19.7	— 36 18 40.5	— 67.9		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Aug. 31	1	σ^2 Ursæ Majoris, S. P.	. .	5	VII–III.	16 34 59.7	68.2	57.9	67.4	59.9	59.1	62.03	25.270	.306	30.148
	2	ζ Cygni	. .	5	III–VII.	99 14 59.9	68.8	66.0	67.0	60.3	61.8	63.97	34.249	.262	. .
	3	Lacaille 8787 . .	7.0	5	III–VII.	158 34 59.8	66.9	66.9	66.1	58.0	58.9	62.77	29.340	.359	30.142
	4	Nadir	. .	5	. .	269 59 59.1	66.3	65.0	65.2	60.1	61.1	62.80*d*	29.954	.964	. .
Sept. 1	5	Sun N. L. . . .	. .	4	I–IV.	120 34 59.4	65.0	61.3	61.7	58.4	59.4	60.87	28.952	.940	. .
	6	Sun S. L. . . .	. .	4	VI–IX.	121 4 60.5	66.9	63.0	63.7	60.4	61.2	62.62	25.621	.639	30.180
	7	Venus	. .	5	I–IX.	124 24 58.5	65.2	62.0	61.8	60.0	60.3	61.30	26.304	.318	30.163
	8	Mercury	. .	5	I–IX.	133 59 59.5	66.1	62.6	62.0	60.8	62.1	62.18	26.928	.938	30.149
	9	Polaris, S. P. . .	. .	5	4–2.	37 29 56.4	62.1	63.9	60.7	60.1	57.9	60.18	29.922	.931	. .
	10	α Virginis	. .	5	I–IX.	139 19 58.5	63.6	60.0	60.3	57.9	58.4	59.78	30.284	.305	30.139
	11	μ Aquilæ	. .	1	V.	121 49 58.2	62.5	60.9	59.6	57.0	58.4	59.43	35.343	.358	30.132
	12	Nadir 19h. 50m. . .	. .	3	. .	269 59 58.9	62.6	62.4	60.6	59.2	61.0	60.78	29.889	.896	. .
	13	λ Ursæ Minoris . .	. .	5	Near V.	39 59 58.0	64.0	64.9	65.0	60.2	62.4	62.42	29.455	.466	. .
	14	α^2 Capricorni . . .	. .	5	III–VII.	141 49 58.9	62.6	62.2	59.8	56.7	58.0	59.70	29.984	.997	. .
	15	B. A. C. 7124 . .	. .	4	I–IV.	56 49 57.5	62.5	63.4	62.6	60.0	61.9	61.32	30.810	.740	. .
	16	B. A. C. 7124, (Ref.)	. .	4	VI–IX.	303 9 58.0	63.2	63.9	57.9	57.9	57.0	59.65	28.940	.023	30.130
	17	μ Aquarii	. .	4	I–IV.	138 24 59.9	65.8	63.0	62.0	60.0	59.8	61.75	36.289	.309	. .
	18	μ Aquarii, (Ref.) . .	. .	3	VII–IX.	221 39 59.7	61.9	65.1	63.6	58.4	62.9	61.93	33.165	.177	. .
	19	ζ Cygni	. .	4	I–IV.	99 14 59.4	67.0	64.6	63.6	60.9	61.3	62.80	34.178	.181	. .
	20	ζ Cygni, (Ref.) . .	. .	2	VII, IX.	260 44 59.1	63.8	63.9	62.6	60.1	61.6	61.85	25.676	.697	. .
	21	ζ Capricorni . . .	3.5	5	III–VII.	151 54 58.7	64.4	64.5	61.3	58.0	58.9	60.97	36.790	.797	30.138
	22	Lacaille 8839 . .	. .	1	V.	154 49 58.4	64.5	63.0	60.9	58.1	58.0	60.48	26.443	.454	. .
	23	ε Capricorni . . .	. .	5	I–IX.	148 54 58.8	64.0	62.8	61.0	57.2	56.2	60.00	27.806	.819	. .
	24	Lacaille 8934 . .	. .	5	III–VII.	156 49 59.1	65.2	64.2	62.1	59.3	58.8	61.45	23.892	.903	. .
	25	Lacaille 8947 . .	. .	3	IV–VI.	" " "	"	"	"	"	"	"	33.521	.530	. .
	26	B. A. C. 7665 .	6.0	3	IV–VI.	147 24 58.6	64.2	63.5	60.6	57.4	58.0	60.38	29.858	.865	30.135
	27	Nadir 22h. 10m. . .	. .	4	. .	269 59 58.8	64.5	63.4	63.0	59.2	60.8	61.62	29.913	.921	. .
2	28	Sun S. L. . . .	. .	4	I–IV.	121 29 57.8	65.2	61.2	61.1	59.0	59.5	60.63	31.485	.474	30.116
	29	Sun N. L. . . .	. .	4	VI–IX.	120 59 58.0	65.9	60.4	60.9	58.2	59.1	60.42	34.717	.734	. .
	30	μ Aquilæ	. .	5	III–VII.	121 49 58.0	63.5	60.9	60.0	57.5	59.0	59.82	35.388	.400	30.068
	31	f Sagittarii	. .	3	III–VII.	148 59 57.9	62.0	60.8	58.4	54.9	55.2	58.20	35.743	.750	. .
	32	b^3 Cygni	. .	1	V.	92 29 57.8	64.9	63.0	63.1	58.5	61.8	61.52	30.602	.606	. .
	33	33 Cygni	. .	1	V.	72 44 58.1	65.0	64.0	63.5	60.1	62.0	62.12	31.261	.278	30.072
	34	Nadir	. .	3	. .	269 59 58.6	64.1	62.7	61.6	59.4	60.8	61.20	29.902	.909	. .
	35	α Equulei	. .	5	III–VII.	124 14 59.1	65.9	63.1	62.5	59.3	61.1	61.83	36.965	.974	30.062
	36	α Cephei	. .	4	VI–IX.	66 54 59.6	66.2	67.3	66.9	62.2	65.1	64.55	33.896	.858	. .
	37	β Aquarii	. .	5	III–VII.	135 4 59.3	67.0	63.2	62.8	59.9	61.3	62.25	35.068	.084	30.061
26	38	λ Ursæ Minoris . .	. .	1	V.	39 59 59.9	64.1	64.9	65.4	60.0	65.0	63.22	29.737	.740	. .
	39	B. A. C. 7181 . .	6.3	1	V.	156 14 58.1	60.2	58.9	59.0	54.7	57.3	58.03	33.936	.944	30.129
	40	Nadir 21h. 0m. . .	. .	4	. .	269 59 59.5	61.8	60.4	60.5	57.5	61.7	60.23	29.882	.891	. .
	41	ζ Cygni, (Ref.) . .	. .	3	III–VII.	260 44 59.5	60.8	62.0	62.0	58.5	62.8	60.93	25.520	.531	. .
	42	α Cephei, (Ref.) . .	. .	3	III–V.	293 4 58.3	61.5	61.2	59.3	56.5	60.1	59.48	25.801	.817	. .
	43	α Cephei	. .	3	VII–IX.	66 54 57.3	61.0	62.0	62.0	58.0	63.3	60.60	34.033	.988	30.126
	44	7 Piscis Australis .	5.8	5	III–VII.	162 29 60.2	63.6	64.5	63.5	57.9	62.0	61.95	30.731	.739	. .
	45	45 Capricorni . . .	5.0	1	IX.	144 14 60.5	64.4	62.2	61.1	58.4	61.1	61.28	31.541	.560	. .
	46	γ Gruis	2.5	3	IV–VI.	166 49 59.9	64.0	63.5	64.9	58.0	60.5	61.80	30.869	.877	. .
	47	Lacaille 8981 . .	7.2	1	V.	158 34 57.7	61.4	61.5	60.5	55.4	57.8	59.05	33.357	.372	. .
	48	O. Arg. N. 23385 .	9.0	5	III–VII.	75 54 58.7	62.1	63.0	63.5	59.8	63.4	61.85	28.798	.792	. .
	49	ζ Cephei	. .	5	III–VII.	71 19 57.4	60.9	61.8	61.0	57.4	63.5	60.33	26.990	.989	. .
	50	O. Arg. S. 22146 . .	. .	3	III–VII.	147 54 58.1	60.5	60.9	59.1	54.2	57.7	58.42	31.010	.025	30.122
	51	σ^1 Gruis	. .	5	I–IV.	170 4 58.5	62.8	63.4	62.5	56.3	58.9	60.40	29.804	.830	. .
	52	σ^2 Gruis	. .	4	II–VIII.	" " "	"	"	"	"	"	"	28.806	.824	. .
	53	O. Arg. N. 24533 .	9.0	1	V.	74 14 58.8	61.9	63.9	62.9	58.7	62.6	61.47	34.147	.164	. .
	54	α Pegasi, (Ref.) . .	. .	2	III, IV.	245 34 59.9	63.4	64.0	64.7	59.7	65.8	62.92	28.620	.626	. .
	55	α Pegasi	. .	3	VII–IX.	114 24 59.5	64.5	63.0	63.0	58.5	62.2	61.78	31.329	.336	30.116
	56	Nadir 22h. 15m. . .	. .	3	. .	269 59 59.1	62.0	60.5	61.6	57.1	61.8	60.35	29.887	.895	. .
27	57	Sun N. L. . . .	. .	4	I–IV.	130 29 59.5	62.6	58.5	60.1	56.2	60.5	59.57	26.396	.392	. .
	58	Sun S. L. . . .	. .	4	VI–IX.	131 4 58.9	62.4	57.8	58.6	56.1	59.1	58.82	32.169	.205	30.096
	59	24 Ursæ Minoris . .	. .	5	1–5.	41 54 58.9	61.9	61.2	60.2	60.0	65.0	61.20	29.292	.306	30.044
	60	α Lyræ	. .	5	I–IX.	90 14 59.1	61.8	59.1	57.7	58.5	64.5	60.12	32.464	.454	. .
	61	Nadir 18h. 45m. . .	. .	2	. .	269 59 58.7	59.7	57.2	56.7	57.3	62.8	58.73	29.852	.858	. .
	62	50 Draconis	. .	5	IV–VI.	53 39 59.2	61.1	61.4	60.3	59.7	64.8	61.08	34.733	.728	. .
28	63	ε Draconis	. .	5	III–V.	58 59 59.1	63.8	64.4	62.7	62.1	68.9	61.83	33.168	.170	. .
	64	ε Draconis, (Ref.) . .	. .	4	VI–IX.	300 59 56.1	58.3	58.5	52.5	54.8	58.4	56.43	26.568	.639	30.191
	65	55 Camelopardi, S. P. .	. .	3	VI–IV.	17 49 57.9	61.5	62.6	61.5	58.2	60.7	60.40	33.294	.318	. .

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	66.0	59.2	29.875	+ 2 23.2	— 3 9.9	16 34 15.3	+ 67 40 36.0	+ 77.6	Ha.	
2	. .	. .	. .	— 2 17.5	+ 9.3	99 12 55.7	+ 29 40 43.5	— 86.1		
3	66.0	59.4	. .	+ 16.2	2 25.3	158 37 44.2	— 29 44 5.0	81.6		
4										
5	. .	. .	29.870	29.1	28.7	120 35 58.7	+ 8 1 47.6		N.	
6	70.5	74.0	. .	2 12.6	29.4	121 7 44.6				
7	72.5	75.0	. .	1 51.3	35.3	124 27 27.9	+ 4 26 11.3			
8	72.8	76.0	. .	+ 1 31.9	+ 46.9	134 2 20.9	— 5 8 41.7			
9	.	. .	. .	— 1.9	— 1 12.4	37 28 45.8	+ 88 35 6.0	— 80.5		
10	73.0	76.1	. .	13.6	+ 1 4.6	139 20 50.7	— 10 27 11.5	+ 85.7		
11	71.0	66.6	. .	— 2 52.0	+ 35.1	121 47 42.5	+ 7 5 56.7	— 51.9		
12										
13	. .	. .	. .	+ 12.7	— 1 7.5	39 59 7.6	+ 88 54 31.6	67.3		
14	. .	. .	. .	— 4.0	+ 1 12.1	141 51 7.8	— 12 57 28.6	63.3		Cloudy.
15	. .	. .	. .	— 27.3	— 37.2	56 48 56.9	+ 72 4 42.3	76.8		Very unsteady.
16	70.0	64.0	. .	+ 26.5	+ 37.2	303 11 3.3	+ 72 4 42.6			Fair.
17	. .	. .	. .	— 3 21.8	+ 1 3.9	138 22 43.9	— 9 29 4.7	76.0		
18	. .	. .	. .	1 43.6	— 1 3.9	221 37 14.4	— 9 29 6.3			
19	. .	. .	. .	— 2 15.1	+ 9.2	99 12 56.9	+ 29 40 42.3	86.4		
20	. .	. .	. .	+ 2 10.7	— 9.2	260 47 3.3	+ 29 40 42.6			Unsteady.
21	69.0	62.1	. .	— 3 37.0	+ 1 46.3	151 53 10.2	— 22 59 31.0	84.1		
22	. .	. .	. .	+ 1 47.0	2 1.1	154 53 48.5	26 0 9.3	85.1		
23	. .	. .	. .	1 4.2	1 34.5	148 57 38.7	20 3 59.5	87.4		
24	. .	. .	. .	+ 3 7.0	1 58.9	156 55 7.3	28 1 28.1	89.7		
25	. .	. .	. .	— 1 54.7	2 12.5	156 50 19.2	27 56 40.0	90.4		
26	68.5	61.2	. .	+ 0.2	1 29.3	147 26 29.8	— 18 32 50.6	93.8		
27										
28	72.0	77.2	. .	— 50.3	29.5	121 29 39.8	+ 7 39 50.9		Ha.	
29	. .	. .	. .	2 32.4	28.9	120 57 56.9				
30	71.0	64.2	. .	2 53.3	35.1	121 47 41.6	+ 7 5 57.6	51.7		
31	. .	. .	. .	3 4.2	1 33.9	148 58 27.8	— 20 4 48.6	49.5		
32	. .	. .	. .	23.1	2.5	92 29 40.9	+ 36 23 58.3	71.1		
33	69.5	63.1	. .	44.1	17.7	72 44 35.7	56 9 3.5	72.1		
34										
35	68.5	62.4	. .	3 42.6	+ 38.6	124 11 57.8	4 41 41.4	85.0		
36	. .	. .	. .	2 5.0	— 24.3	66 52 35.2	+ 62 1 4.0	87.9		
37	68.0	62.5	. .	— 2 43.4	+ 56.9	135 3 15.7	— 6 9 36.5	87.8		
38	. .	. .	29.888	+ 4.6	— 1 7.6	39 59 0.2	+ 88 54 39.1	73.1	N.	September 26. Image west 0s.4±. Level
39	66.0	62.3	. .	— 2 7.1	+ 2 9.3	156 15 0.2	— 27 21 21.0			nearly correct.
40										
41	. .	. .	. .	+ 2 16.5	— 9.3	260 47 8.1	+ 29 40 47.4	90.9		
42	. .	. .	. .	+ 2 7.6	+ 24.4	293 7 31.4	62 1 10.7	94.9		
43	65.5	60.2	. .	— 2 8.5	— 24.4	66 52 27.7	+ 62 1 11.5			
44	. .	. .	. .	26.7	+ 2 59.2	162 32 34.4	— 33 38 55.2	82.3		
45	. .	60.2	. .	52.4	1 19.2	144 15 28.0	15 21 48.8	89.0		
46	. .	. .	. .	31.0	3 59.4	166 53 30.2	37 59 51.0	85.8		Micrometer recorded 31r.
47	. .	. .	. .	— 1 49.2	+ 2 24.6	158 35 34.4	— 29 41 55.2	89.3		
48	. .	. .	. .	+ 34.3	— 14.4	75 55 21.7	+ 52 58 17.5	103.0		
49	. .	. .	. .	+ 1 30.8	— 19.3	71 21 11.8	+ 57 32 27.5	103.6		
50	65.0	59.1	. .	— 35.6	+ 1 31.3	147 55 54.1	— 19 2 14.9	97.4		
51	. .	. .	. .	+ 1.8	5 16.8	170 10 19.0	41 16 39.8	94.6		
52	. .	. .	. .	+ 33.3	+ 5 17.1	170 10 50.8	— 41 17 11.6	94.7		
53	. .	. .	. .	— 2 14.0	— 16.2	74 12 31.2	+ 54 41 8.0	106.6		
54	. .	. .	. .	+ 39.5	+ 26.1	245 35 16.3	14 28 55.6	107.1		Micrometer readings a little doubtful.
55	64.5	58.4	. .	— 45.4	26.1	114 24 42.4	+ 14 28 56.8			
56										
57	. .	. .	. .	+ 1 49.5	42.0	130 32 31.0	— 1 54 50.8			
58	70.0	75.4	. .	— 1 12.6	+ 42.8	131 4 29.0				
59	73.0	71.1	. .	+ 18.2	— 1 2.2	41 54 17.2	+ 86 59 22.0	34.9		
60	. .	. .	. .	— 1 20.4	+ 0.2	90 13 39.9	38 39 59.3	38.3		Steady.
61										
62	. .	69.7	. .	2 31.7	— 41.3	53 36 48.0	75 16 51.2	48.1		
63	. .	. .	. .	— 1 42.8	— 33.7	58 57 45.3	69 55 53.9	— 70.4		
64	72.0	71.0	. .	+ 1 41.8	+ 33.7	301 2 11.9	69 55 51.2			
65	. .	. .	. .	— 1 47.5	— 2 53.1	17 45 19.8	+ 68 51 40.6	+ 68.2		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Sept. 28	1	b^3 Cygni		4	III–VII.	92 29 59.2	62.7	60.4	61.5	59.0	64.9	61.28	30.736	.734	
	2	Nadir 20h. 20m.		3		269 59 59.5	60.5	59.3	58.2	58.0	63.1	59.77	29.872	.878	
	3	B. A. C. 7205	6.0:	1	VIII.	155 9 59.1	62.7	60.6	58.8	57.5	61.9	60.10	33.365	.394	30.196
	4	O. Arg. S. 20951	8.0:	1	V.	144 39 58.6	61.0	58.4	56.8	56.7	60.5	58.67	30.231	.248	
	5	Anon. 20h. 52m. 48s.		5	III–VII.	164 34 58.4	61.4	61.1	59.4	58.1	61.7	60.02	34.353	.373	
	6	O. Arg. S. 21163		1	V.	151 49 58.3	61.2	60.1	57.7	56.1	61.0	59.07	18.165	.182	
	7	B. A. C. 7347		1	V.	" " "	"	"	"	"	"	"	23.564	.569	
	8	29 Capricorni	5.0	5	I–IX.	144 34 58.1	61.0	58.0	56.5	57.1	60.5	58.53	27.888	.901	
	9	O. Arg. S. 21441	8.0	1	V.	154 49 58.9	61.8	60.2	57.6	57.1	60.6	59.37	39.151	.168	
	10	Lacaille 8839	7.5	1	V.	" " "	"	"	"	"	"	"	26.321	.337	
	11	η Aquarii, (Ref.)		3	I, III, IV.	230 19 58.8	59.5	61.4	60.6	58.0	65.0	60.55	32.677	.680	
	12	η Aquarii		3	VII–IX.	129 39 59.0	62.9	58.5	58.6	57.7	61.5	59.70	27.108	.125	30.202
Oct. 4	13	α Cygni, (Ref.)		5	III–VII.	275 54 58.5	59.6	59.3	59.1	58.9	61.4	59.47	30.747	.758	
	14	Nadir		3		269 59 59.2	61.8	60.4	60.6	58.9	62.0	60.48	29.909	.916	
6	15	Nadir 11h. 55m.		3		269 59 59.7	63.0	59.9	60.8	60.3	63.8	61.25	29.857	.867	
7	16	Polaris, S. P.		5	5–1.	37 29 57.5	61.5	61.8	60.1	59.2	61.1	60.20	29.520	.531	29.810
	17	α Bootis		5	I–IX.	108 59 58.2	63.2	57.4	57.7	58.3	62.0	59.47	30.069	.075	29.773
	18	24 Ursæ Minoris		5	1–5.	41 54 57.8	62.5	60.9	59.8	59.7	63.0	60.62	29.280	.298	29.666
	19	α Lyræ		5	I–IX.	90 14 57.7	61.0	58.0	57.0	57.9	62.7	59.05	32.431	.423	
	20	51 (Hev.) Cephei, S. P.		1	V.	36 9 57.5	60.5	60.6	59.3	58.9	60.9	59.62	31.523	.530	
	21	50 Draconis		5	III–VII.	53 34 58.4	61.5	60.9	60.0	59.2	64.4	60.73	25.146	.163	
	22	Anon. 19h. 16m. 24s.		1	V.	152 19 59.0	60.8	59.0	58.1	56.7	60.5	59.02	34.220	.237	29.652
	23	Anon. 19h. 23m. 34s.		1	V.	" " "	"	"	"	"	"	"	40.365	.380	
	24	O. Arg. S. 19715		1	V.	148 44 59.1	60.0	57.6	56.7	54.9	58.0	57.72	32.630	.633	
	25	O. Arg. S. 19732		1	V.	" " "	"	"	"	"	"	"	31.209	.226	
	26	Lacaille 8186	6.7:	1	V.	165 49 60.5	62.9	60.9	60.9	58.4	62.7	61.05	36.471	.481	
	27	O. Arg. S. 20030	7.5	1	V.	152 19 60.8	62.5	61.0	59.7	58.4	62.4	60.80	26.592	.596	
	28	g Sagittarii	5.0	5	I–IX.	144 44 60.1	62.0	59.2	56.6	57.6	61.5	59.50	33.654	.664	29.644
	29	Weisse XIX, 1512	8.0	1	V.	143 29 59.9	62.2	60.6	58.5	57.8	61.6	60.10	28.240	.257	
	30	α^2 Capricorni		5	I–IX.	141 49 60.4	62.3	61.0	58.7	57.9	61.3	60.27	39.955	.970	
	31	B. A. C. 7034	7.3	5	III–VII.	154 54 60.0	62.0	60.7	58.2	57.7	62.0	60.10	30.753	.760	
	32	ω^2 Cygni	3.8	1	V.	80 24 58.5	62.8	61.7	59.6	60.2	65.0	61.30	32.867	.873	
	33	B. A. C. 7147		1	V.	155 19 58.6	62.0	60.9	58.2	56.0	60.6	59.38	29.693	.696	
	34	α Cygni		1	V.	84 4 58.5	60.9	61.0	59.9	58.9	63.6	60.47	29.094	.110	
	35	Lacaille 8608		1	V.	160 49 59.5	60.9	62.5	59.1	56.0	59.6	59.60	25.896	.903	29.631
	36	B. A. C. 7290		1	V.	84 59 58.8	62.3	63.2	61.8	60.7	65.9	62.12	36.584	.589	
	37	Radcliffe 5050		1	V.	" " "	"	"	"	"	"	"	30.290	.306	
	38	σ Ursæ Majoris, S. P.		1	V.	16 34 58.8	61.5	61.9	59.3	56.7	59.5	59.62	25.722	.725	
	39	ζ Cygni, (Ref.)		3	III–VII.	260 44 59.0	60.6	59.9	59.3	57.9	63.0	59.95	25.456	.473	
	40	45 Capricorni	6.2	5	III–VII.	144 14 58.6	62.2	59.8	58.0	56.9	59.8	59.22	31.368	.384	29.618
	41	B. A. C. 7630	7.5	5	III–VII.	144 44 59.4	62.0	59.6	57.0	57.7	60.3	59.33	28.296	.314	
	42	Lacaille 8993	7.3:	5	III–VII.	163 19 60.8	64.0	63.2	61.8	59.0	62.3	61.85	31.173	.195	
	43	λ Gruis	3.0:	1	V.	168 59 60.6	62.5	63.4	62.0	56.8	61.2	61.08	28.705	.708	
	44	O. Arg. N. 23452	7.0:	3	IV–VI.	76 14 59.5	63.1	63.7	62.5	61.4	64.5	62.45	30.651	.650	
	45	Nadir 22h. 15m.		3		269 59 57.7	60.2	58.2	57.6	57.1	60.6	58.57	29.826	.837	
	46	σ^1 Gruis		1	V.	170 4 58.7	61.9	62.2	59.9	56.6	59.0	59.72	29.394	.407	29.603
	47	σ^2 Gruis		1	V.	" " "	"	"	"	"	"	"	28.371	.385	
8	48	Sun N. L.		4	I–IV.	134 44 58.5	65.5	61.6	63.3	56.8	60.5	61.03	25.585	.604	
	49	Sun S. L.		4	VI–IX.	135 19 58.2	64.7	61.2	62.1	57.7	60.4	60.72	31.134	.141	29.695
10	50	Nadir 18h. 25m.		1		269 59 57.1	61.2	58.5	59.5	58.1	58.5	58.82	28.977	.988	
	51	α Lyræ		5	I–IX.	90 14 58.0	63.6	60.0	60.1	59.6	60.2	60.25	31.615	.599	
	52	50 Draconis		5	IV–VI.	53 34 57.5	63.2	61.3	61.8	59.4	60.4	60.60	24.247	.256	29.898
	53	δ Draconis		5	III–VII.	61 29 58.7	63.0	62.1	61.7	60.1	61.9	61.25	32.400	.395	
	54	B. A. C. 6677	8.0:	5	III–VII.	157 19 58.0	62.7	60.3	61.4	58.2	57.5	59.68	27.298	.318	
	55	9 Vulpeculæ	6.7	1	V.	109 24 58.6	64.2	59.0	59.8	58.9	59.0	59.92	30.669	.672	
	56	O. Arg. S. 19909	8.5	5	I–IX.	152 24 58.0	62.5	61.2	60.7	57.9	58.5	59.80	25.817	.832	
	57	Lacaille 8231		5	III–V II.	166 54 58.1	63.4	62.2	62.5	59.5	57.7	60.57	26.793	.803	
	58	B. A. C. 6814	6.5	1	V.	153 9 58.8	62.5	61.4	60.6	57.8	58.2	59.88	32.698	.701	
	59	g Sagittarii	5.2	5	III–VII.	144 44 58.0	62.4	59.1	57.8	58.4	57.5	58.87	32.888	.897	29.912
	60	55 Camelopardi, S. P.		5	VII–III.	17 49 57.8	63.6	63.3	63.7	59.1	58.1	60.93	32.348	.383	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	70.4	29.888	— 26.5	+ 2.5	92 29 37.2	+ 36 24 2.0	— 75.2	N.	Missed wire VI.
2										
3	72.0	70.1	- -	1 49.8	2 0.9	155 10 11.2	— 26 16 31.9	69.6		
4	- -	- -	- -	11.3	1 19.3	144 41 6.6	15 47 27.4	74.8		
5	- -	- -	- -	— 2 20.5	3 20.7	164 36 0.2	35 42 21.0	70.6		
6	- -	- -	- -	+ 6 6.7	1 45.3	151 57 51.0	23 4 11.8	77.2		
7	- -	- -	- -	3 18.0	1 45.1	151 55 2.1	23 1 22.9	77.4		
8	- -	- -	- -	+ 1 2.3	1 19.2	144 37 20.0	15 43 40.8	81.2		
9	- -	68.8	- -	— 4 50.8	1 59.1	154 47 7.6	25 53 28.4	82.8		
10	- -	- -	- -	+ 1 51.3	+ 1 59.7	154 53 50.3	26 0 11.1	82.8		
11	- -	- -	- -	— 1 27.5	— 46.9	230 17 46.1	0 48 34.6	102.2		
12	71.0	67.9	- -	+ 1 26.6	+ 46.9	129 42 13.2	— 0 48 33.9			
13	- -	- -	- -	— 26.8	+ 5.8	275 54 38.5	+ 44 48 17.8	85.6		
14										Vertical wires of reticule bent by damp. On beginning next observation the horizontal wires were found to adhere to them, and work had to be suspended.
15										
16	72.0	72.9	29.877	+ 10.8	— 1 11.9	37 28 59.2	88 35 20.0	— 92.9		October 5 and 6. New wires were put in, and the instrument was again ready for use
17	72.5	74.4	- -	— 6.2	+ 19.0	109 0 12.2	19 53 27.0	+ 71.6		before the transit of the sun on October 7,
18	72.5	69.9	- -	+ 18.1	— 1 1.6	41 54 17.1	86 59 22.1	— 34.8		civil time.
19	- -	- -	- -	— 1 19.8	+ 0.2	90 13 39.4	38 39 59.8	— 38.4		After the Nadir, screwed eye-piece up tighter
20	- -	- -	- -	— 51.8	— 1 15.8	36 7 52.0	87 14 12.8	+ 40.1		to adjust inclination of wires.
21	- -	- -	- -	+ 2 27.7	— 40.9	53 36 47.5	+ 75 16 51.7	— 48.6		
22	71.7	66.8	- -	— 2 16.6	+ 1 45.5	152 19 27.9	— 23 25 48.7	38.6		
23	- -	- -	- -	5 29.1	1 45.3	152 16 15.2	23 22 36.0	41.5		
24	- -	- -	- -	1 26.3	1 31.4	148 45 2.7	19 51 23.5	43.8		
25	- -	- -	- -	42.3	1 31.4	148 45 46.8	19 52 7.6	44.3		
26	- -	- -	- -	— 3 26.9	3 35.8	165 50 9.9	36 56 30.7	40.6		
27	- -	- -	- -	+ 1 42.8	1 46.0	152 23 29.6	23 29 50.4	49.8		
28	- -	66.0	- -	— 1 58.7	1 18.6	144 44 19.4	15 50 40.2	54.8		
29	- -	- -	- -	+ 50.7	1 15.2	143 32 6.0	14 38 26.8	59.0		
30	- -	- -	- -	— 2.9	1 10.8	141 51 8.1	12 57 28.9	63.0		
31	- -	- -	- -	27.7	+ 1 58.4	154 56 30.8	— 26 2 51.6	61.9		
32	- -	- -	- -	— 1 33.9	— 9.4	80 23 18.0	+ 48 30 21.2	83.2		
33	- -	- -	- -	+ 5.7	+ 2 0.7	155 22 5.7	— 26 28 26.5	66.4		
34	- -	- -	- -	24.0	— 5.8	84 5 18.6	+ 44 48 20.6	86.1		
35	70.3	65.4	- -	+ 2 4.5	+ 2 39.2	160 54 43.3	— 32 1 4.1	68.3		
36	- -	- -	- -	— 3 30.3	— 4.9	84 56 26.9	+ 43 57 12.3	90.7		
37	- -	- -	- -	— 13.4	4.8	84 59 43.9	43 53 55.3	— 90.8		
38	- -	- -	- -	+ 2 10.1	3 4.4	376 34 5.3	67 40 26.1	+ 87.3		Tremulous and blurred.
39	- -	- -	- -	+ 2 18.0	— 9.0	260 47 8.9	+ 29 40 48.2	— 92.2		
40	- -	66.0	- -	— 47.2	+ 1 17.3	144 15 29.3	— 15 21 50.1	88.5		Thermometer assumed to be 1° too great.
41	- -	- -	- -	+ 49.0	1 18.8	144 47 7.1	15 53 27.9	91.0		
42	- -	- -	- -	— 41.3	3 3.9	163 22 24.4	34 28 45.2	87.1		
43	- -	- -	- -	+ 36.6	+ 4 38.2	169 5 15.8	— 40 11 36.6	86.6		
44	- -	- -	- -	— 24.2	— 13.7	76 14 24.5	+ 52 39 14.7	105.8		
45										
46	69.5	64.5	- -	+ 14.7	+ 5 7.9	170 10 22.3	— 41 16 43.1	92.7		
47	- -	- -	- -	46.7	5 8.1	170 10 54.5	41 17 15 3	92.8		After this observation adjusted wires for horizontality.
48	- -	- -	29.025	+ 1 47.2	50.4	134 47 38.6	— 6 10 2.9			
49	64.0	56.2	- -	— 1 6.3	51.4	135 19 45.8				Image very bad.
50										
51	- -	- -	- -	— 1 20.7	+ 0.2	90 13 39.7	+ 38 39 59.5	38.2		High wind. Image very difficult to see.
52	58.0	55.6	- -	+ 2 29.4	— 42.3	53 36 47.7	75 16 51.5	48.5		
53	- -	- -	- -	— 1 45.6	— 31.3	61 27 44.3	+ 67 25 54.9	57.8		
54	- -	53.0	- -	+ 0 53.4	+ 2 17.4	157 23 10.4	— 28 29 31.2	39.6		
55	- -	- -	- -	— 0 51.6	20.4	109 24 28.7	+ 19 29 10.5	57.4		
56	- -	- -	- -	+ 1 40.0	1 50.9	152 28 30.7	— 23 34 51.5	46.4		
57	- -	- -	- -	+ 1 9.6	4 4.3	167 0 14.4	38 6 35.2	42.9		
58	- -	- -	- -	— 1 55.2	1 53.9	153 9 58.5	24 16 19.3	49.9		
59	56.5	51.0	- -	2 1.3	+ 1 21.7	144 44 19.2	— 15 50 40.0	— 54.4		
60	- -	- -	- -	— 1 42.1	— 2 58.6	17 45 20.2	+ 68 51 41.0	+ 70.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Oct. 10	1	O. Arg. S. 20443	9.0	1	V.	151 39 57.8	62.9	61.1	60.4	57.3	57.9	59.57	32.626	.629	. .
	2	Anon. 20h. 20m. 11s.	9.3	1	V.	164 39 59.7	65.3	63.3	63.4	60.7	60.4	62.13	31.836	.841	. .
	3	ω^2 Cygni	5.8	1	V.	80 24 58.5	65.6	63.4	63.3	62.4	63.4	62.77	32.016	.028	. .
	4	η Cephei		4	I–IV.	67 34 57.2	63.1	62.2	62.6	60.0	62.2	61.22	29.589	.579	. .
	5	η Cephei, (Ref.)		4	VI–IX.	292 24 57.0	62.2	59.6	57.5	58.7	62.5	59.58	28.419	.445	. .
	6	ζ Cygni, (Ref.)		3	III–VII.	260 39 58.6	62.9	61.7	62.1	61.1	61.6	61.33	14.997	.013	. .
	7	α Cephei, (Ref.)		3	III–V.	293 4 58.5	63.5	61.5	60.5	58.9	59.2	60.35	24.866	.897	. .
	8	α Cephei		4	VI–IX.	66 54 58.8	65.1	64.4	64.0	62.4	64.2	63.15	33.333	.271	29.940
	9	ζ Pegasi		1	V.	118 44 59.1	64.8	59.5	61.2	58.4	59.5	60.42	28.512	.520	. .
	10	ζ Pegasi, (Ref.)		2	VIII, IX.	241 14 58.6	62.4	62.4	62.3	60.0	62.0	61.28	29.589	.561	29.961
	11	λ Aquarii, (Ref.)		4	I–IV.	222 44 58.2	61.6	62.2	62.5	57.5	61.1	60.52	19.994	.032	. .
	12	λ Aquarii		4	VI–IX.	137 9 58.5	64.3	60.6	60.6	59.4	58.4	60.30	28.504	.485	. .
	13	B. A. C. 8026, (Ref.)		3	. .	314 44 58.0	61.9	60.2	58.3	58.6	57.0	59.00	32.695	.760	29.966
	14	Nadir 23h.		3	. .	269 59 58.9	64.5	61.6	62.4	60.6	60.3	61.38	29.054	.068	. .
	15	β Ursæ Majoris		5	III–VII.	71 44 60.0	68.5	65.2	65.9	64.0	64.1	64.62	23.856	.850	30.136
11	16	δ Ursæ Minoris		5	2½–5.	42 19 58.2	64.9	62.4	61.0	62.7	62.2	61.90	32.850	.853	30.084
	17	1 Aquilæ		5	I–IX.	137 14 58.6	64.2	58.8	57.7	59.1	59.2	59.60	33.665	.671	. .
	18	α Lyræ		5	I–IX.	90 14 58.4	64.0	59.9	59.0	61.4	62.3	60.83	31.595	.580	. .
	19	50 Draconis		5	III–VII.	53 39 58.6	63.5	62.0	61.2	62.5	62.6	61.73	33.843	.819	30.086
	20	Nadir 20h. 25m.		3	. .	269 59 58.3	63.5	60.0	59.9	61.0	61.1	60.63	29.014	.024	. .
	21	Lacaille 8537		5	I–IX.	158 44 57.9	64.5	61.9	61.0	59.1	58.7	60.52	29.021	.049	30.088
	22	Lacaille 8616	6.5	5	I–IX.	157 19 57.9	63.5	60.2	60.9	59.6	58.6	60.12	34.264	.294	. .
	23	Lacaille 8658	8.0	5	I–IX.	158 29 58.0	65.0	62.2	61.8	59.1	59.1	60.87	29.934	.957	. .
	24	3 Piscis Australis		5	I–IX.	156 59 59.5	65.0	62.0	61.1	61.1	59.9	61.43	26.394	.420	. .
	25	Lacaille 8777	7.0	1	V.	155 49 59.1	65.0	61.1	61.1	60.7	59.1	61.02	37.033	.046	30.088
	26	Anon. 21h. 33m. 37s.	7.5	1	V.	161 59 58.0	64.8	62.1	62.0	59.1	59.8	60.97	30.822	.826	. .
	27	Lacaille 8889	7.0	1	V.	" " "	"	"	"	"	"	"	33.186	.203	30.090
	28	B. A. C. 7872	7.0	1	V.	161 14 58.3	64.5	63.6	61.9	58.4	59.4	61.02	34.012	.024	30.092
	29	Anon. 22h. 29m. 4s.	8.0	1	VIII.	" " "	"	"	"	"	"	"	36.395	.392	. .
	30	Nadir 22h. 55m.		3	. .	269 59 58.4	64.9	60.8	63.0	60.0	62.0	61.52	29.051	.061	. .
12	31	ε Pegasi		4	I–IV.	119 39 57.5	62.3	59.2	59.1	57.0	58.9	59.00	33.910	.944	. .
	32	ε Pegasi, (Ref.)		4	VI–IX.	240 24 57.7	63.0	63.2	62.5	60.6	62.1	61.52	33.683	.660	29.811
	33	Nadir 22h. 55m.		5	. .	269 59 58.1	62.8	61.0	61.0	59.7	60.1	60.45	29.013	.024	. .
	34	32 Ursæ Majoris, S. P.		3	VI–IV.	14 44 58.2	65.0	64.0	64.3	59.6	59.4	61.75	31.318	.341	29.808
	35	B. A. C. 3528, S. P.		1	V.	32 9 57.5	63.8	62.2	64.0	58.9	60.2	61.10	30.050	.064	. .
	36	56 Aquarii		5	I–IX.	144 9 58.1	64.0	61.5	61.4	58.6	58.2	60.30	31.526	.540	. .
	37	B. A. C. 7872		3	I–IX.	161 9 59.4	65.0	65.6	62.8	59.0	59.0	61.80	24.426	.458	. .
	38	Anon. 22h. 29m. 0s.		2	III, VII.	" " "	"	"	"	"	"	"	26.805	.818	. .
	39	O. Arg. N. 24533		1	V.	75 14 58.6	64.2	64.9	65.0	61.0	62.2	62.65	33.460	.470	. .
	40	B. A. C. 7953	7.0	1	V.	71 9 58.5	64.0	63.0	63.9	61.0	63.4	62.30	34.016	.028	. .
	41	Lalande 45545		1	V.	145 9 57.7	63.2	60.9	59.3	58.2	57.5	59.47	28.880	.886	29.813
	42	97 Aquarii	6.0:	1	V.	144 39 58.7	64.2	60.9	60.7	58.9	58.5	60.32	30.968	.978	. .
	43	B A. C. 8172		5	I–IX.	165 9 59.4	64.2	63.1	63.1	58.0	59.6	61.23	34.225	.260	. .
	44	Lacaille 9524	7.3	5	III–VII.	164 39 58.5	64.6	63.0	63.4	59.0	58.8	61.22	29.241	.263	. .
	45	A[1] Aquarii	6.3	5	III–VII.	147 39 57.6	62.0	62.0	60.7	56.7	56.6	59.27	32.033	.049	29.817
	46	B. A. C. 8314		3	III–V.	55 14 57.5	63.4	63.9	64.8	60.2	60.8	61.77	29.825	.820	. .
	47	B. A. C. 8314, (Ref.)		2	VI, VII.	304 44 57.4	62.2	61.3	59.8	57.8	57.1	59.27	28.239	.269	. .
	48	Mercury, centre		2	VIII, IX.	128 29 57.1	65.8	59.9	62.5	57.5	58.1	60.15	34.262	.270	29.870
13	49	Sun N. L.		2	III, IV.	136 39 57.1	67.1	60.1	62.8	59.6	58.1	60.80	29.269	.296	29.860
	50	Sun S. L.		4	VI–IX.	137 14 57.4	66.4	60.5	61.8	58.0	56.8	60.15	34.760	.754	. .
	51	α Lyræ		5	I–IX.	90 14 57.3	64.0	60.5	61.0	58.6	60.0	60.23	31.604	.588	. .
	52	α^1 Capricorni		1	V.	141 49 57.0	64.7	62.0	62.0	57.2	57.1	60.00	33.515	.523	29.868
	53	α^2 Capricorni		5	I–IX	" " "	"	"	"	"	"	"	29.172	.195	. .
	54	B. A. C. 7079, (N. *)	8.0	5	I–IX.	118 4 57.1	63.6	57.9	60.0	56.0	56.6	58.53	30.110	.121	. .
	55	B. A. C. 7079, (S. *)	8.0	4	II–VIII.	" " "	"	"	"	"	"	"	30.217	.231	. .
	56	ε. Delphini	6.0	3	IV–VI.	" " "	"	"	"	"	"	"	34.614	.618	. .
	57	ε Aquarii	6.5	5	I–IX.	138 54 57.4	65.1	60.0	61.9	58.7	56.1	59.87	35.442	.457	29.874
	58	Lacaille 8923	7.5	1	V.	155 24 57.5	65.0	61.9	62.1	58.6	56.9	60.33	35.680	.683	29.890
	59	μ Cephei	7.0	1	V.	72 54 58.4	66.5	64.5	67.1	60.9	61.1	63.08	28.671	.674	. .
	60	29[2] Aquarii		5	I–IX.	146 29 58.8	64.5	62.3	62.0	58.5	58.0	60.68	31.182	.207	. .
	61	39 Aquarii	7.0	5	I–IX.	143 44 59.0	66.8	63.9	64.5	60.0	59.0	62.20	31.702	.712	. .
	62	B. A. C. 7851		5	1–5.	43 29 59.1	66.8	65.0	66.9	60.0	61.0	63.13	31.414	.425	29.890
	63	Nadir 22h. 15m.		3	. .	269 59 58.5	65.2	61.9	64.3	59.0	59.2	61.35	29.059	.072	. .
	64	α Piscis Australis		2	VII, IX.	159 14 58.0	65.9	64.5	66.0	58.4	58.0	61.80	36.226	.226	. .
	65	α Ursæ Majoris		5	III–VII.	66 24 58.6	66.9	65.9	67.9	61.8	62.5	63.93	28.255	.257	29.852
	66	Mercury		4	VI–IX.	128 59 56.9	62.5	57.8	60.1	56.8	57.1	58.53	31.943	.947	29.849

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.025	— 1 52.9	+ 1 47.1	151 39 53.7	— 22 46 14.5	— 60.9	N.	
2	. .	50.2	. .	1 28.2	+ 3 28.3	164 42 2.2	— 35 48 23.0	58.4		Very uncertain.
3	. .	. .	. .	1 34.1	— 9.8	80 23 18.8	+ 48 30 20.4	83.5		
4	. .	. .	. .	— 17.4	— 24.0	67 34 19.8	61 19 19.4	89.4		
5	. .	. .	. .	+ 18.2	+ 24.0	292 25 41.7	61 19 21.0			
6	. .	. .	. .	7 19.0	— 9.4	260 47 10.9	29 40 50.2	92.5		
7	. .	. .	. .	+ 2 9.3	+ 24.8	293 7 34.4	62 1 13.7	97.9		
8	55.0	49.5	. .	— 2 13.0	— 24.8	66 52 25.3	62 1 13.9			
9	. .	. .	. .	+ 15.8	+ 32.0	118 45 48.2	10 7 51.0	105.4		
10	54.3	49.9	. .	— 16.8	— 32.0	241 14 12.4	+ 10 7 51.7			
11	. .	. .	. .	+ 4 41.8	— 1 2.8	222 48 39.5	— 8 17 40.3	102.9		
12	. .	. .	. .	+ 16.9	+ 1 2.8	137 11 20.0	— 8 17 40.8			
13	54.3	49.5	. .	— 1 57.0	+ 57.6	314 43 59.6	+ 83 37 38.9	— 109.8		At 22h. 56m. 53s., 58m. 33s., and 59m. 11s.
14										
15	55.5	59.0	29.009	+ 2 41.7	— 18.9	71 47 27.4	57 6 11.8	+ 103.1	Ha.	
16	62.5	61.3	. .	— 2 0.4	— 1 2.7	42 16 58.8	+ 86 36 40.4	— 32.4	N.	
17	. .	. .	. .	2 26.1	+ 1 1.7	137 13 35.2	— 8 19 56.0	+ 23.5		
18	. .	. .	. .	1 20.6	+ 0.2	90 14 40.4	+ 38 38 58.8	— 38.1		
19	. .	58.6	. .	2 30.7	— 42.3	53 36 48.7	+ 75 16 50.5	48.5		
20									Ha.	
21	59.0	52.0	. .	1.2	+ 2 28.5	158 47 27.8	— 29 53 48.6	65.4		
22	. .	. .	. .	2 45.6	2 18.2	157 19 32.7	28 25 53.5	69.6		No. of whole rev. recorded 24.
23	. .	. .	. .	— 29.7	2 26.8	158 31 57.9	29 38 18.7	72.0		
24	. .	. .	. .	+ 1 21.1	2 16.7	157 3 39.2	28 10 0.0	75.6		
25	58.8	50.6	. .	— 4 11.8	2 8.9	155 47 58.1	26 54 18.9	78.0		
26	. .	. .	. .	56.9	2 57.8	162 2 1.8	33 8 22.6	82.0		
27	57.5	49.6	. .	2 11.4	2 57.6	162 0 47.1	33 7 7.9	82.1		
28	56.0	48.1	. .	2 37.1	2 50.7	161 15 14.6	32 21 35.4	94.4		
29	. .	. .	. .	3 51.3	2 50.5	161 14 0.2	— 32 20 21.0	94.4		
30										
31	. .	. .	. .	2 34.6	+ 32.9	119 37 57.3	+ 9 15 41.9	— 95.3	N.	Blurred and unsteady.
32	56.0	50.3	. .	2 25.7	— 32.9	240 22 2.9	9 15 42.2			Blurred and unsteady.
33										
34	. .	49.8	. .	1 13.1	3 36.6	14 40 12.0	65 46 32.7	+ 101.5		
35	. .	. .	. .	33.1	— 1 31.9	32 7 56.1	+ 83 14 16.9	+ 105.6		
36	. .	. .	. .	— 1 19.3	+ 1 20.0	144 10 1.0	— 15 16 21.8	— 97.7		
37	. .	. .	. .	+ 2 22.6	2 48.5	161 15 12.9	32 21 33.7	94.2		
38	. .	. .	. .	+ 1 8.7	+ 2 48.3	161 13 58.8	— 32 20 19.6	94.2		
39	. .	. .	. .	— 2 19.8	— 15.3	75 12 27.5	+ 53 41 11.7	110.7		
40	. .	. .	. .	— 2 37.2	— 19.8	71 7 5.3	+ 57 46 33.9	111.2		
41	. .	49.3	. .	+ 3.8	+ 1 23.1	145 11 26.3	— 16 17 47.1	103.4		Faint; somewhat uncertain.
42	. .	. .	. .	— 1 1.7	1 21.6	144 40 20.2	15 46 41.0	104.1		
43	. .	. .	. .	2 44.5	3 34.8	165 10 51.5	36 17 12.3	100.0		
44	. .	. .	. .	8.0	3 28.4	164 43 21.6	35 49 42.4	100.7		
45	. .	48.2	. .	1 35.2	+ 1 31.5	147 39 55.5	— 18 46 16.3	104.6		
46	. .	. .	. .	— 25.4	— 40.4	55 13 55.9	+ 73 39 43.3	110.0		
47	. .	. .	. .	+ 23.2	+ 40.4	304 46 2.8	73 39 42.1			
48	53.0	51.7	29.032	— 2 44.1	40.9	128 27 56.9	+ 0 25 42.3		Ha.	
49	54.0	54.2	. .	8.3	54.5	136 40 47.0	— 8 3 12.5			
50	. .	. .	. .	2 59.3	55.6	137 12 56.4				
51	. .	. .	. .	1 20.1	0.2	90 13 40.3	+ 38 39 58.9	37.9	N.	Steady.
52	52.5	49.0	. .	2 20.7	1 13.7	141 48 53.0	— 12 55 13.8	62.6	Ha.	
53	. .	. .	. .	5.1	1 13.8	141 51 8.7	— 12 57 29.5	62.7		
54	. .	. .	. .	34.1	31.0	118 4 55.4	+ 10 48 43.8	75.3		
55	. .	. .	. .	37.6	31.0	118 4 51.9	10 48 47.3	75.3		
56	. .	. .	. .	2 55.0	31.0	118 2 34.5	+ 10 51 4.7	76.0		
57	52.0	48.8	. .	3 21.3	1 6.5	138 52 45.0	— 9 59 5.8	74.1		
58	51.5	48.2	. .	— 3 28.4	+ 2 6.4	155 23 38.3	— 26 29 59.1	85.4		
59	. .	. .	. .	+ 11.2	— 17.9	72 54 56.3	+ 55 58 42.9	105.1		
60	. .	. .	. .	— 1 8.2	+ 1 27.8	146 30 20.2	— 17 36 41.0	91.6		
61	. .	. .	. .	1 24.0	+ 1 19.4	143 44 57.6	— 14 51 18.4	94.4		
62	51.0	46.8	. .	1 15.0	— 1 1.5	43 27 46.6	+ 85 25 52.6	108.5		
63										
64	. .	45.0	. .	— 3 45.4	+ 2 33.1	159 13 49.5	— 30 20 10.3	— 97.8		
65	50.1	52.5	. .	+ 24.3	— 25.2	66 25 3.0	+ 62 28 36.2	+ 105.2	N.	
66	54.0	56.0	. .	— 1 31.3	+ 41.4	128 59 8.6	— 0 5 29.4			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Oct. 14	1	β Ursæ Minoris	- -	3	VII–IX.	54 9 57.0	62.2	61.4	62.4	60.8	60.3	60.68	25.973	.842	29.791
	2	α Lyræ	- -	5	I–IX.	90 14 57.9	62.9	59.1	59.1	59.3	60.9	59.87	31.593	.577	- -
	3	Nadir 18h. 45m.	- -	4	- -	269 59 58.2	60.3	58.8	58.0	58.6	60.0	58.98	28.988	.998	- -
	4	δ Draconis	- -	5	III–VII.	61 29 57.9	62.8	61.8	60.5	61.0	62.9	61.15	32.418	.412	- -
	5	κ Aquilæ	- -	4	I–IV.	136 9 58.6	64.9	60.5	59.5	60.1	60.7	60.72	25.273	.323	- -
	6	κ Aquilæ, (Ref.)	- -	4	VI–IX.	223 49 58.0	60.2	61.2	60.1	57.6	61.0	59.68	32.844	.816	29.784
	7	B. A. C. 2590, S. P.	- -	2	IV, III.	28 44 57.4	62.0	61.6	63.7	60.4	59.7	60.80	28.188	.277	- -
	8	Weisse XIX, 1319	- -	1	V.	143 9 57.4	60.8	59.1	58.8	57.6	58.1	58.63	27.588	.592	- -
	9	λ Ursæ Minoris	- -	5	2–V.	39 59 57.0	61.9	61.2	62.1	60.0	61.0	60.53	28.851	.856	- -
	10	α^2 Capricorni	- -	3	III–VII.	141 49 58.0	62.0	60.9	58.8	58.4	58.1	59.37	29.133	.152	- -
	11	B. A. C. 7034	- -	5	III–VII.	154 54 58.1	61.8	60.4	58.8	58.0	59.0	59.35	29.915	.926	- -
	12	Lacaille 8492	7.3	1	V.	159 49 57.9	60.8	61.7	60.4	56.9	56.9	59.10	34.774	.777	- -
	13	τ^2 Capricorni	6.0:	5	I–IX.	144 19 58.0	62.1	59.6	59.0	59.0	57.8	59.25	33.282	.305	- -
	14	B. A. C. 7181	7.7	5	III–VII.	156 14 58.7	62.4	59.9	59.7	58.3	57.4	59.40	33.114	.134	29.786
	15	Lacaille 8616	7.2	5	III–VII.	157 19 58.9	62.6	61.4	60.9	58.9	58.3	60.17	34.207	.228	- -
	16	B. A. C. 7290	- -	3	III, V, VIII.	84 59 58.4	62.5	63.3	62.8	61.7	63.5	62.03	35.742	.756	- -
	17	Radcliffe 5050	- -	1	V.	" " "	"	"	"	"	"	"	29.424	.436	- -
	18	σ Ursæ Majoris, S. P.	- -	4	IV–I.	16 39 56.6	62.0	62.0	60.9	58.2	57.1	59.47	34.228	.275	- -
	19	29 Capricorni	- -	1	V.	144 34 57.4	61.8	58.5	57.5	57.8	57.2	58.37	27.045	.059	- -
	20	B. A. C. 7413	5.2	5	III–VII.	152 4 58.8	62.5	61.7	60.0	58.5	59.0	60.08	26.421	.436	- -
	21	Lacaille 8834	7.8	5	I–IX.	155 9 58.8	62.7	60.5	59.8	58.4	58.0	59.70	29.886	.905	- -
	22	ε Capricorni	- -	5	I–IX.	148 54 58.2	62.0	60.2	59.8	57.2	56.4	58.97	26.851	.865	- -
	23	Anon. 21h. 33m. 36s.	8.0:	1	V.	161 59 59.0	63.4	62.2	62.4	58.0	59.1	60.68	30.724	.727	- -
	24	Lacaille 8889	8.0:	1	V.	" " "	"	"	"	"	"	"	33.146	.163	- -
	25	Lacaille 8923	- -	5	III–VII.	155 24 58.0	62.1	60.7	60.0	58.0	57.6	59.40	35.581	.589	29.805
	26	B. A. C. 7632	- -	5	III–VII.	166 44 59.2	64.2	63.0	64.4	60.1	59.5	61.73	32.569	.580	- -
	27	29 Aquarii, (1st *)	8.0	2	III, VII.	146 29 57.6	61.6	59.2	58.0	57.1	57.9	58.57	30.988	.005	- -
	28	29 Aquarii, (2d *)	8.0	3	I–IX.	" " "	"	"	"	"	"	"	31.038	.062	- -
	29	36 Aquarii	7.0:	5	I–IX.	137 44 59.0	64.5	60.2	59.9	60.0	59.0	60.43	32.221	.242	- -
	30	ζ Pegasi	- -	4	I–IV.	118 44 60.7	64.5	60.6	61.1	59.1	61.2	61.20	28.570	.600	- -
	31	ζ Pegasi, (Ref.)	- -	4	VI–IX.	241 14 59.0	63.0	63.3	62.1	61.4	62.9	61.95	29.631	.600	- -
	32	ι Cephei	- -	4	I–IV.	63 24 57.1	61.5	60.6	60.5	59.0	60.5	59.87	30.215	.209	- -
	33	ι Cephei, (Ref.)	- -	4	VI–IX.	296 34 57.5	63.2	59.8	57.6	58.3	57.6	59.00	27.796	.823	- -
	34	Nadir 23h.	- -	3	- -	269 59 58.0	62.9	60.4	60.7	60.1	60.0	60.35	29.034	.047	29.816
15	35	Sun N. L.	- -	4	VI–IX.	137 24 55.9	63.8	57.2	59.0	57.1	56.8	58.30	30.139	.147	29.778
16	36	α Ursæ Majoris	- -	5	III–VII.	66 24 58.0	65.2	65.2	65.9	60.7	62.2	62.87	28.215	.218	30.096
17	37	Sun N. L.	- -	2	III, IV.	138 9 54.7	61.9	56.4	59.5	55.2	55.2	57.15	32.063	.088	30.076
	38	Sun S. L.	- -	4	VI–IX.	138 39 57.5	64.1	58.2	62.0	57.1	56.9	59.30	28.034	.038	- -
	39	δ Ursæ Minoris	- -	2	4, 5.	42 19 56.1	62.0	61.2	61.1	59.7	59.9	60.00	32.824	.823	30.042
	40	α Lyræ	- -	5	III–VII.	90 14 56.6	61.0	57.8	58.2	56.9	59.6	58.35	31.534	.535	- -
	41	Nadir 18h. 50m.	- -	4	- -	269 59 58.1	60.5	59.4	58.4	59.4	59.6	59.23	28.989	.999	- -
	42	δ Aquilæ	- -	5	I–IX.	125 59 58.9	62.6	59.9	57.9	58.1	58.2	59.27	25.535	.543	30.042
	43	O. Arg. S. 19715	- -	1	V.	148 44 59.6	61.8	60.0	59.1	57.0	56.9	59.07	31.885	.892	- -
	44	c^1 Sagittarii	- -	1	V.	145 29 59.0	62.3	60.5	58.1	58.1	58.9	59.48	32.654	.657	- -
	45	Lacaille 8231	- -	5	III–VII.	166 54 60.2	63.3	63.5	62.6	59.6	59.4	61.43	26.834	.845	- -
	46	B. A. C. 6814	- -	5	I–IX.	153 9 60.1	61.9	62.4	59.7	57.9	58.7	60.12	32.679	.693	- -
	47	Lacaille 8325	7.0	1	V.	151 49 60.2	63.4	62.8	60.3	58.9	59.2	60.80	28.927	.935	- -
	48	Weisse XIX, 1512	- -	5	I–IX.	143 29 60.2	63.7	62.4	60.5	59.0	59.0	60.80	27.505	.520	- -
	49	α^2 Capricorni, (Ref.)	- -	3	III–VII.	218 9 60.0	61.2	64.0	63.6	58.5	63.4	61.78	28.952	.959	- -
	50	o Ursæ Majoris, S. P.	- -	5	VII–III.	10 9 58.5	63.0	62.9	63.9	58.2	58.0	60.75	31.926	.948	- -
	51	B. A. C. 7079, (1st *)	8.0	2	III, VII.	118 4 61.5	64.2	60.1	60.8	58.0	61.9	61.08	30.204	.218	- -
	52	B. A. C. 7079, (2d *)	8.0	1	V.	" " "	"	"	"	"	'	"	30.314	.330	- -
	53	ε Delphini	- -	5	I–IX.	" " "	"	"	"	"	"	"	34.709	.707	30.053
	54	Lacaille 8537	7.5	5	I–IX.	158 44 61.2	65.2	64.8	64.0	58.9	61.0	62.52	29.097	.127	- -
	55	ε Aquarii	- -	5	I–IX.	138 49 59.5	63.6	61.3	60.9	58.6	59.0	60.48	25.878	.888	- -
	56	57 Cygni	- -	1	V.	84 59 52.4	57.0	57.5	57.0	55.0	57.9	56.13	27.525	.532	- -
	57	O. Arg. S. 21053	7.7	1	V.	148 39 59.6	62.4	60.9	60.4	57.1	57.5	59.65	31.654	.657	- -
	58	B. A. C. 7437	8.5	1	V.	151 54 60.9	64.9	64.0	62.2	59.7	60.5	62.20	32.391	.404	- -
	59	α Equulei	- -	5	I–IX.	124 9 59.4	63.3	61.8	60.6	58.6	61.4	60.85	26.638	.634	- -
	60	B. A. C. 7413	- -	1	V.	152 4 59.4	63.2	63.0	61.2	58.0	59.7	60.75	26.441	.452	30.052
	61	11 Cephei, (Ref.)	- -	3	III–V.	301 44 58.2	62.2	61.0	58.2	57.3	57.7	59.10	24.110	.158	- -
	62	11 Cephei	- -	3	VII–IX.	58 9 58.6	64.1	64.3	64.7	62.0	64.5	63.03	24.576	.458	- -
	63	Nadir 21h. 50m.	- -	4	- -	269 59 58.2	60.9	60.6	60.2	58.2	59.8	59.65	29.011	.022	- -
	64	α Ursæ Majoris	- -	5	III–VII.	66 24 58.0	65.9	64.7	64.5	61.3	62.1	62.75	28.178	.180	29.930
	65	Polaris, S. P.	- -	3	4–2.	37 29 58.2	64.2	63.2	64.0	59.6	58.2	61.23	28.481	.491	- -

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	59.0	59.8	29.032	+ 1 40.0	— 40.9	54 10 59.7	+ 74 42 39.5	+ 60.9	N.	
2	. .	. .	. .	— 1 19.7	+ 0.2	90 13 40.3	38 39 58.9	— 37.9		
3										Ext ther. 56°.8 at 18h. 51m.
4	. .	. .	. .	— 1 45.9	— 31.1	61 27 44.1	+ 67 25 55.1	57.8		
5	. .	. .	. .	+ 1 56.2	+ 59.7	136 12 56.6	— 7 19 17.4	— 49.3		
6	58.5	54.1	. .	— 1 58.6	— 59.7	223 47 1.3	— 7 19 19.4			
7	. .	. .	. .	+ 23.7	— 1 44.2	28 43 40.3	+ 79 50 1.1	+ 66.8		
8	. .	. .	. .	45.1	+ 1 16.5	143 12 0.2	— 14 18 21.0	— 56.0		
9	. .	. .	. .	+ 5.5	— 1 8.3	39 58 57.7	+ 88 54 41.5	75.4		
10	. .	53.7	. .	— 3.7	+ 1 12.9	141 51 8.5	— 12 57 29.3	62.6		
11	. .	. .	. .	28.0	2 2.0	154 56 33.3	26 2 54.1	61.3		
12	. .	. .	. .	3 0.0	2 34.6	159 49 33.7	30 55 54.5	61.9		
13	. .	. .	. .	2 13.9	1 19.7	144 19 5.0	15 25 25.8	69.1		Very unsteady.
14	. .	53.7	. .	2 8.5	2 9.5	156 15 0.4	27 21 21.1	67.2		
15	. .	. .	. .	2 42.8	+ 2 16.4	157 19 33.8	— 28 25 54.6	69.3		
16	. .	. .	. .	3 30.7	— 5.2	84 56 26.1	+ 43 57 13.1	91.4		
17	. .	. .	. .	12.7	5.1	84 59 44.2	43 53 55.0	— 91.4		
18	. .	. .	. .	— 2 44.3	— 3 10.1	16 34 5.0	+ 67 40 35.8	+ 88.5		
19	. .	52.8	. .	+ 1 1.8	+ 1 20.8	144 37 20.9	— 15 43 41.7	— 80.3		
20	. .	. .	. .	+ 1 21.4	1 48.3	152 8 9.7	23 14 30.5	79.8		
21	. .	. .	. .	— 27.4	2 3.8	155 11 36.1	26 17 56.9	80.9		
22	. .	. .	. .	+ 1 7.9	1 35.5	148 57 42.3	20 4 3.1	84.6		
23	. .	. .	. .	— 53.1	2 55.5	162 2 3.0	33 8 23.8	81.5		
24	. .	. .	. .	2 9.4	2 55.3	162 0 46.5	33 7 7.3	81.7		
25	. .	51.4	. .	3 25.5	2 5.1	155 23 39.0	26 29 59.8	85.3		
26	. .	. .	. .	1 51.2	3 59.7	166 47 10.2	37 53 31.0	83.8		
27	. .	. .	. .	1 1.8	1 26.9	146 30 23.7	17 36 44.5	91.4		
28	. .	. .	. .	1 3.6	1 26.9	146 30 21.8	17 36 42.6	91.4		
29	. .	. .	. .	— 1 40.6	1 3.5	137 44 23.3	— 8 50 44.1	95.5		
30	. .	. .	. .	+ 13.5	+ 31.7	118 45 46.4	+ 10 7 52.8	105.4		Very unsteady.
31	. .	50.3	. .	— 17.8	— 31.7	241 14 12.4	10 7 51.7			Very unsteady.
32	. .	. .	. .	— 36.9	— 29.0	63 23 53.9	65 29 45.3	— 111.7		
33	. .	. .	. .	+ 37.9	+ 29.0	296 36 5.9	+ 65 29 45.2			
34	56.0	50.0								
35	58.5	66.0	. .	— 35.0	+ 17 0.2	137 41 23.5	— 8 47 44.3		Ha.	
36	54.0	54.5	29.029	+ 25.4	— 25.3	66 25 2.9	+ 62 28 36.3	+ 106.0	N.	
37	58.0	61.0	. .	— 1 35.8	+ 57.3	138 9 18.6 }	— 9 31 44.4			
38	. .	. .	. .	+ 31.0	+ 58.4	138 41 28.7 }				
39	62.0	61.4	. .	— 1 58.9	— 1 2.6	42 16 58.5	+ 86 36 40.7	— 32.0		
40	. .	. .	. .	— 1 18.5	+ 0.2	90 13 40.0	38 39 59.2	37.8		
41										
42	61.0	57.6	. .	+ 1 49.2	41.8	126 2 30.2	+ 2 51 9.0	48.3		
43	. .	. .	. .	— 1 29.7	1 34.4	148 45 3.7	— 19 51 24.5	43.5		
44	. .	. .	. .	— 1 53.7	1 23.5	145 29 29.2	16 35 50.0	47.4		
45	. .	. .	. .	+ 1 8.4	4 3.3	167 0 12.9	38 6 33.7	42.7		
46	. .	. .	. .	— 1 54.8	1 53.4	153 9 58.7	24 16 19.5	49.7		
47	. .	54.8	. .	+ 2.9	1 47.5	151 51 51.2	22 58 12.0	53.7		
48	. .	. .	. .	47.3	+ 1 17.9	143 32 6.0	14 38 26.7	58.6		
49	. .	. .	. .	+ 2.2	— 1 13.4	218 8 50.5	— 12 57 30.2	— 62.6		
50	. .	. .	. .	— 1 31.5	— 5 12.1	10 3 17.1	+ 61 9 37.9	+ 75.6		
51	. .	. .	. .	37.2	+ 30.8	118 4 54.6	10 48 44.6	— 75.4		
52	. .	. .	. .	40.8	30.8	118 4 51.1	10 48 48.1	75.4		
53	59.5	55.0	. .	2 57.9	30.8	118 2 33.9	+ 10 51 5.3	76.0		
54	. .	. .	. .	— 3.1	2 27.5	158 47 26.9	— 29 53 47.7	65.1		
55	. .	. .	. .	+ 1 38.4	+ 1 6.1	138 52 44.9	— 9 59 5.7	73.7		
56	. .	54.8	. .	+ 46.9	— 5.1	85 0 37.9	+ 43 53 1.3	90.2		Circle moved by blow on eye piece.
57	. .	. .	. .	— 1 22.3	+ 1 34.6	148 40 11.9	— 19 46 32.7	75.0		
58	. .	. .	. .	— 1 45.8	1 47.9	151 55 4.3	— 23 1 25.1	76.0		
59	. .	. .	. .	+ 1 15.0	39.3	124 11 55.1	+ 4 41 44.1	87.0		
60	59.0	53.7	. .	1 20.8	1 48.9	152 8 10.4	— 23 14 31.2	79.7		
61	. .	. .	. .	2 32.6	+ 35.9	301 48 7.6	+ 70 41 46.9	— 104.2		
62	. .	53.2	. .	2 23.2	— 35.9	58 11 50.3	70 41 48.9			
63										
64	56.0	48.0	29.042	27.0	25.5	66 25 4.2	62 28 35.0	+ 106.4	Ha.	
65	. .	59.4	. .	+ 17.2	— 1 14.1	37 29 4.3	+ 88 35 25.1	— 97.3		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Oct. 18	1	Sun S. L.		4	I–IV.	139 4 58.4	65.3	61.0	61.9	58.9	58.0	60.58	34.140	.174	29.882
	2	Sun N. L.		2	VI, VII.	138 29 58.9	66.1	60.4	62.0	59.0	58.8	60.87	28.712	.708	- -
	3	Anon. 20h. 39m. 9s.	7.5	1	V.	157 4 59.0	62.7	60.9	60.0	57.5	59.0	59.85	33.395	.408	29.792
	4	Anon. 20h. 39m. 45s.	8.0	1	V.	" " "	"	"	"	"	"	"	27.157	.174	- -
	5	*ν* Cygni	5.5	1	V.	88 14 59.7	64.9	62.1	61.8	60.0	63.8	62.05	30.302	.318	- -
	6	B. A. C. 7312	8.0	1	V.	146 34 59.0	63.0	60.2	59.5	57.7	59.7	59.85	31.096	.111	- -
	7	*θ* Capricorni	5.0	1	V.	" " "	"	"	"	"	"	"	23.087	.102	- -
	8	Lacaille 8741	8.0	1	V.	155 19 58.8	63.7	61.7	61.0	58.0	58.7	60.32	29.960	.970	- -
	9	Lacaille 8821	8.0	1	V.	157 9 59.0	63.4	61.0	61.2	58.2	58.9	60.28	29.198	.215	- -
	10	8 Piscis Australis	6.5	5	III–VII.	155 39 59.7	64.2	61.1	61.1	59.2	59.0	60.72	33.324	.344	29.792
	11	Lacaille 9113		1	V.	155 24 60.6	66.0	63.3	63.2	60.0	60.9	62.33	33.661	.664	29.808
	12	*κ* Aquarii		5	III–VII.	133 49 58.0	65.0	61.3	61.7	58.9	61.5	61.07	32.993	.005	- -
	13	12 Lacertæ		1	V.	89 24 58.4	65.0	62.8	62.1	60.0	61.6	61.65	34.658	.661	- -
	14	*α* Piscis Australis		5	I–IX.	159 14 58.8	64.5	63.0	64.0	58.0	59.4	61.28	36.167	.199	- -
	15	*α* Ursæ Majoris, S. P.		5	VII–III.	11 24 58.5	65.2	64.3	66.0	59.1	59.8	62.15	25.497	.520	- -
	16	59 Pegasi	6.0	1	V.	120 54 58.0	64.7	60.6	62.9	57.6	59.2	60.50	31.724	.727	- -
	17	Lacaille 9447	8.0	1	V.	152 24 58.0	63.9	62.2	63.0	57.8	59.0	60.65	28.361	.376	- -
	18	9 Piscium	6.0	1	V.	128 29 58.2	65.0	59.7	63.0	58.0	60.0	60.65	29.336	.351	- -
	19	Nadir		3	- -	269 59 58.2	64.1	60.9	63.4	58.1	60.4	60.85*d*	29.055	.069	- -
19	20	Sun N. L.		4	I–IV.	138 54 57.7	64.9	60.3	62.9	57.2	57.2	60.03	35.034	.064	29.858
	21	Sun S. L.		4	VI–IX.	139 24 58.5	64.5	60.2	63.1	56.8	57.4	60.08	30.986	.988	- -
	22	*α* Lyræ		3	III, IV, VIII.	90 14 59.9	66.0	62.6	64.1	60.6	62.5	62.62	31.667	.658	- -
20	23	Lacaille 8821		1	V.	157 9 57.0	64.6	61.3	64.3	56.0	57.1	60.05	29.255	.272	30.024
	24	8 Piscis Australis		1	V.	155 39 56.9	64.8	59.5	63.2	56.8	56.0	59.53	33.362	.376	- -
	25	9 Cephei		1	V.	67 24 56.8	66.6	64.4	67.0	60.0	62.6	62.90	28.648	.651	- -
	26	*μ* Capricorni		1	V.	143 4 56.8	65.2	61.1	64.0	57.0	57.0	60.18	32.202	.219	- -
	27	Lacaille 9003		1	V.	156 54 56.8	64.1	61.0	63.9	56.9	56.0	59.78	34.354	.369	30.028
	28	B. A. C. 7745		1	V.	154 44 56.6	65.0	61.0	63.5	56.9	57.2	60.03	34.020	.032	- -
	29	Lacaille 9113	9.0	1	V.	155 24 57.6	65.1	61.1	63.7	57.1	56.9	60.25	33.639	.642	- -
	30	*κ* Aquarii		1	V.	133 49 57.7	66.9	62.6	64.4	58.9	60.0	61.75	33.090	.105	30.032
	31	12 Lacertæ		1	V.	89 24 57.0	66.1	62.6	64.5	58.8	59.6	61.43	34.634	.638	- -
	32	*α* Piscis Australis		1	V.	159 14 56.9	66.3	63.1	66.7	57.4	57.1	61.25	36.261	.278	- -
	33	*α* Pegasi		1	V.	114 24 56.3	66.2	63.1	65.0	58.0	58.1	61.12	30.715	.718	- -
	34	59 Pegasi		1	V.	120 54 55.9	64.9	60.2	63.5	55.9	56.1	59.42	31.748	.751	- -
	35	Lacaille 9447	9.0	1	V.	152 24 57.1	65.4	62.9	65.0	57.1	57.2	60.78	28.383	.397	- -
	36	9 Piscium		1	V.	128 29 57.2	65.9	60.0	65.1	56.9	58.0	60.52	29.405	.418	30.050
	37	Nadir		3	- -	269 59 56.9	59.0	65.0	57.0	66.1	61.0	60.83	29.043	.053	- -
	38	Polaris, S. P.		3	4–2.	37 29 56.2	63.9	63.4	66.1	58.1	55.7	60.57	28.394	.408	30.128
21	39	Sun S. L.		4	I–IV.	140 4 57.4	66.0	61.1	64.9	57.5	55.4	60.38	25.427	.457	- -
	40	Sun N. L.		4	VI–IX.	139 34 57.6	66.2	61.0	64.1	57.6	55.6	60.35	29.674	.668	30.116
	41	*α* Lyræ		5	I–IX.	90 14 57.7	63.4	60.1	61.4	58.8	60.8	60.37	31.595	.580	- -
	42	Nadir 19h. 45m.		4	- -	269 59 57.5	60.8	59.9	59.2	57.5	58.7	58.93	28.990	.000	- -
	43	Lacaille 8325	7.0	5	III–VII.	151 49 59.6	64.5	62.5	61.5	59.3	59.3	61.12	28.957	.970	30.025
	44	*λ* Ursæ Minoris		3	4–5.	39 59 57.5	63.2	62.9	64.2	60.5	61.1	61.57	28.866	.864	- -
	45	α^1 Capricorni		1	I.	141 49 58.8	63.1	61.6	61.0	57.8	58.5	60.13	33.438	.506	- -
	46	α^2 Capricorni		5	I–IX.	" " "	"	"	"	"	"	"	29.168	.191	- -
	47	Anon. 20h. 14m. 31s.		4	VI–IX.	162 19 56.8	61.5	60.9	61.2	55.9	56.9	58.87	30.492	.487	- -
	48	ω^1 Cygni		1	V.	79 59 56.9	63.2	61.8	61.0	60.0	60.7	60.60	34.375	.389	30.030
	49	Anon. 20h. 30m. 42s.	8.0	5	III–VII.	162 29 58.2	62.9	62.0	62.8	58.3	58.5	60.45	30.169	.191	- -
	50	*η* Cephei, (Ref.)		3	I–III.	292 24 58.3	61.9	60.4	58.5	58.0	58.6	59.28	28.339	.445	- -
	51	*η* Cephei		4	VI–IX.	67 34 58.2	63.9	63.2	64.0	60.4	63.6	62.22	29.697	.626	- -
22	52	Sun N. L.		4	I–IV.	139 54 58.0	65.9	60.6	61.2	57.0	55.8	59.75	27.354	.387	29.862
	53	Sun S. L.		4	VI–IX.	140 29 57.1	67.0	61.3	63.4	58.0	57.0	60.63	32.807	.802	- -
24	54	Sun S. L.		4	I–IV.	141 9 57.0	63.8	60.4	62.9	57.5	57.1	59.78	29.146	.182	29.788
	55	Sun N. L.		4	VI–IX.	140 39 56.9	65.8	60.6	63.0	58.3	57.5	60.35	33.462	.463	- -
	56	Nadir 22h. 25m.		3	- -	269 59 57.0	63.8	60.1	61.5	58.8	59.5	60.12	29.028	.038	- -
	57	Mercury		5	III–VII.	136 9 56.9	65.5	60.7	61.1	58.9	58.5	60.27	28.347	.363	30.059
25	58	Sun N. L.		4	I–IV.	140 59 57.5	62.3	60.2	61.0	57.0	56.5	59.08	32.062	.095	- -
	59	Sun S. L.		4	VI–IX.	141 29 57.6	65.0	61.5	62.6	58.6	58.1	60.57	27.936	.936	30.048
	60	Venus		2	I, III.	149 19 58.5	63.2	61.1	61.0	57.2	57.4	59.73	29.466	.504	30.032
	61	O. Arg. S. 21290	8.5	5	III–VII.	151 29 57.9	63.5	62.2	61.4	58.4	58.0	60.23	33.059	.076	30.056
	62	Nadir 21h. 30m.		3	- -	269 59 58.1	62.6	60.2	61.4	58.5	60.1	60.15	29.032	.044	- -
	63	O. Arg. S. 21269	9.0	1	V.	147 39 59.2	64.0	62.7	62.0	58.2	58.5	60.77	31.803	.807	- -
	64	*γ* Gruis	4.0:	5	I–IX.	166 49 59.0	65.0	63.3	64.8	59.5	59.4	61.83	30.063	.097	30.057

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	*r.*	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	59.5	60.6	29.042	— 2 40.8	+ 58.9	139 3 18.6			Ha.	
2	. .	. .	. .	+ 10.5	57.7	138 31 9.0	— 9 53 34.6			Clouds at wires VIII, IX.
3	60.0	53.0	. .	— 2 16.8	2 14.9	157 4 57.9	28 11 18.7	— 67.0		
4	. .	. .	. .	+ 58.5	+ 2 15.2	157 8 13.5	— 28 14 34.3	67.2		
5	. .	. .	. .	— 40.0	— 1.8	88 14 20.2	+ 40 39 19.0	90.9		
6	. .	. .	. .	— 1 4.8	+ 1 27.0	146 35 22.0	— 17 41 42.8	76.3		
7	. .	. .	. .	+ 3 6.1	1 27.2	146 39 33.1	17 45 53.9	76.7		
8	. .	. .	. .	— 29.1	2 4.8	155 21 36.0	26 27 56.8	76.1		
9	. .	. .	. .	5.4	2 16.2	157 12 11.0	28 18 31.8	79.1		
10	59.0	50.7	. .	2 14.8	2 6.8	155 39 52.7	26 46 13.5	82.0		
11	57.0	48.1	. .	2 24.8	2 6.1	155 24 43.6	26 31 4.4	92.7		
12	. .	. .	. .	2 4.2	+ 55.7	133 48 52.5	— 4 55 13.3	101.4		
13	. .	. .	. .	2 56.1	— 0.6	82 22 4.9	+ 39 31 34.3	110.8		
14	. .	. .	. .	— 3 44.2	+ 2 31.9	159 13 48.9	— 30 20 9.7	— 97.1		
15	. .	.	. .	+ 1 50.3	— 4 39.8	11 22 12.6	+ 62 28 33.4	+ 106.6		
16	. .	. .	. .	— 1 24.1	+ 34.8	120 54 11.2	+ 7 59 28.0	— 108.0		
17	. .	. .	. .	+ 20.9	1 51.1	152 27 12.6	— 23 33 33.4	101.4		
18	. .	47.2	. .	— 9.7	46.3	128 30 37.2	+ 0 23 2.0	107.3		
19										
20	56.0	54.6	29.035	3 8.9	59.2	138 52 50.3			N.	
21	. .	. .	. .	1 1.2	1 0.4	139 24 59.2	— 10 15 15.5			
22	. .	. .	. .	1 22.2	0.2	90 13 40.6	+ 38 39 58.6	37.7		
23	52.5	46.1	29.027	7.7	2 18.6	157 12 10.9	— 28 18 31.7	79.0	Ha.	
24	. .	. .	. .	— 2 16.3	+ 2 9.1	155 39 52.3	— 26 46 13.1	81.8		
25	. .	. .	. .	+ 11.8	— 24.5	67 24 50.2	+ 61 28 49.0	103.7		
26	. .	. .	. .	— 1 40.0	+ 1 18.2	143 4 38.3	— 14 10 59.1	90.2		
27	51.5	44.6	. .	2 47.4	2 17.2	156 54 29.5	28 0 50.3	87.8		
28	. .	. .	. .	2 36.8	2 4.3	154 44 27.5	25 50 48.3	90.9		
29	. .	. .	. .	2 24.6	2 8.3	155 24 43.9	26 31 4.7	92.5		
30	50.0	42.8	. .	2 7.8	+ 56.7	133 48 50.6	— 4 55 11.4	101.3		
31	. .	. .	. .	2 55.8	— 0.6	89 22 5.0	+ 39 31 34.2	111.1		
32	. .	. .	. .	3 47.2	+ 2 34.7	159 13 48.7	— 30 20 9.5	96.7		
33	. .	. .	. .	53.0	26.9	114 24 35.0	+ 14 29 4.2	108.7		
34	. .	. .	. .	— 1 25.3	35.5	120 54 9.6	+ 7 59 29.6	108.1		
35	. .	. .	. .	+ 19.8	1 53.1	152 27 13.6	— 23 33 34.4	101.2		
36	49.5	42.0	. .	— 12.2	+ 47.2	128 30 35.5	+ 0 23 3.7	108.1		
37										Quite uncertain; mercury very unsteady.
38	52.0	56.4	29.036	+ 19.7	— 1 15.2	37 29 5.0	+ 88 35 25.8	98.5	N.	
39	. .	. .	. .	+ 1 52.1	+ 1 2.3	140 7 54.7				This limb very bad.
40	53.5	57.4	. .	— 1 19.8	1 1.1	139 35 41.6	— 10 58 8.9			
41	. .	. .	. .	— 1 19.7	0.2	90 13 40.8	+ 38 39 58.4	37.5		Very steady.
42										Recorded 20h.
43	56.0	51.6	. .	+ 2.1	+ 1 48.1	151 51 51.3	— 22 58 12.1	53.7		
44	. .	. .	. .	+ 5.4	— 1 9.2	39 58 57.7	+ 88 54 41.5	76.0		
45	. .	. .	. .	— 2 20.1	+ 1 13.8	141 48 53.8	— 12 55 14.6	62.4		
46	. .	. .	. .	4.8	1 13.9	141 51 9.2	12 57 30.0	62.6		
47	. .	. .	. .	45.5	+ 3 0.7	162 22 14.0	— 33 28 34.8	56.7		
48	55.5	50.2	. .	2 47.7	— 10.3	79 57 2.6	+ 48 56 36.6	83.3		
49	. .	. .	. .	— 36.2	+ 2 0.8	162 31 25.0	— 33 37 45.8	62.2		
50	. .	. .	. .	+ 18.5	+ 24.1	292 25 41.8	+ 61 19 21.0	90.6		Cloudy at wire IV.
51	. .	. .	. .	— 18.5	— 24.1	67 34 19.6	+ 61 19 19.6			Cloudy.
52	50.5	48.3	. .	+ 51.7	+ 1 2.5	139 56 53.9			Ha.	
53	. .	. .	. .	— 1 58.0	1 3.8	140 29 6.4	— 11 19 20.9			
54	55.0	59.7	. .	4.6	1 3.7	141 10 58.8				
55	. .	. .	. .	— 2 18.7	1 2.4	140 38 44.0	12 1 12.2			
56										
57	55.0	58.2	. .	+ 21.1	55.1	136 11 16.4	7 17 37.2		N.	
58	. .	. .	. .	— 1 35.8	1 4.0	140 59 27.2				
59	56.3	58.9	. .	+ 34.5	1 5.3	141 31 40.3	12 21 54.5			
60	59.0	60.6	. .	— 14.7	1 31.0	149 21 16.0	20 27 36.8			Cloudy from V to IX.
61	55.3	48.4	. .	2 6.6	1 47.3	151 29 40.9	22 36 1.7	78.2		
62			. .							
63	. .	. .	. .	1 26.8	1 32.4	147 40 6.3	18 46 27.1	86.8		
64	54.5	46.8	. .	— 33.3	+ 4 5.8	166 53 34.3	— 37 59 55.1	— 81.9		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Oct. 25	1	B. A. C. 7665	7.2	5	III–VII.	147 24 58.4	63.7	61.2	60.6	57.0	58.2	59.85	28.989	.003	- -
	2	36 Aquarii	7.3	5	I–IX.	137 44 57.7	64.1	60.5	59.9	58.4	57.9	59.75	32.269	.290	- -
	3	39 Aquarii	6.0	1	V.	143 44 58.5	63.6	61.9	61.0	57.9	58.6	60.25	31.665	.668	- -
	4	B. A. C. 3528, S. P.	5.5	4	5, 4, 2, 1.	32 9 57.9	65.1	64.0	64.8	59.5	59.6	61.82	30.160	.179	- -
	5	σ^1 Gruis	- -	1	V.	170 4 57.8	64.0	63.5	63.2	57.0	57.5	60.50	29.113	.129	30.056
	6	σ^2 Gruis	- -	3	I–IX.	" " "	"	"	"	"	"	"	28.063	.106	- -
	7	B. A. C. 7593	6.0	1	V.	71 4 56.5	63.4	62.1	63.7	59.7	62.5	61.32	24.515	.523	- -
	8	α Ursæ Majoris, S. P.	-	1	V.	11 24 54.7	62.5	62.0	64.3	56.6	56.5	59.43	25.360	.375	- -
	9	Neptune	- -	4	III–IX.	127 49 57.5	63.2	61.0	62.0	56.2	56.9	59.47	30.848	.842	30.070
	10	λ^1 Sculptoris	- -	1	IX.	167 59 58.0	64.8	64.8	66.5	57.7	58.0	61.63	26.505	.507	- -
	11	λ^2 Sculptoris	- -	1	V.	" " "	"	"	"	"	"	"	30.845	.850	- -
	12	O. Arg. S. 433	- -	1	V.	158 4 57.1	64.1	62.4	63.6	55.5	57.0	59.95	28.919	.927	- -
	13	Polaris, (Ref.)	- -	3	1, V, 4.	319 39 56.5	63.1	61.7	60.6	55.5	57.0	59.07	27.786	.793	30.073
	14	Ceres	7.3	1	V.	135 24 56.8	64.1	62.0	62.4	57.5	58.0	60.13	32.736	.739	- -
	15	ν Piscium, (Ref.)	- -	4	I–IV.	235 54 56.6	63.0	64.7	65.9	57.3	60.7	61.37	28.448	.491	- -
	16	ν Piscium	- -	3	VII–IX.	124 4 55.5	64.4	61.1	62.9	56.2	58.1	59.70	29.664	.635	- -
	17	50 Cassiopeæ, (Ref.)	- -	4	I–IV.	302 49 55.2	62.6	61.7	60.4	55.5	55.1	58.42	25.666	.772	- -
	18	50 Cassiopeæ	- -	4	VI–IX.	57 9 - -	62.5	61.6	64.0	56.7	59.6	59.93	32.320	.233	- -
	19	Nadir 2h. 15m.	- -	4	- -	269 59 56.5	63.4	61.1	63.9	56.4	58.4	59.95	29.024	.037	- -
	20	Anon. 2h. 24m. 44s.	8.2	1	V.	107 9 57.2	66.2	63.4	63.6	57.5	57.6	60.92	30.569	.574	- -
	21	Amphitrite	9.3	1	VII.	" " "	"	"	"	"	"	"	28.400	.382	30.074
26	22	Sun S. L.	- -	4	I–IV.	141 49 57.2	65.2	61.7	62.9	57.5	57.1	60.27	27.056	.089	30.132
	23	Sun N. L.	- -	4	VI–IX.	141 19 58.1	65.3	61.5	64.0	57.5	57.1	60.58	31.292	.299	- -
28	24	α Lyræ	- -	5	III–VII.	90 14 57.1	64.6	60.0	60.4	59.1	60.1	60.22	31.580	.578	- -
	25	29 Piscium	- -	4	VI–IX.	132 39 58.1	65.9	61.3	63.0	58.2	58.8	60.88	30.318	.306	29.720
	26	ι Ceti	- -	5	III–VII.	138 29 57.9	65.4	60.0	61.9	58.0	56.2	59.90	35.159	.177	- -
	27	Neptune	- -	1	V.	127 49 57.8	64.0	60.0	60.8	57.0	56.9	59.42	27.659	.662	- -
	28	55 Piscium	- -	5	I–IX.	108 14 57.5	66.3	61.1	61.8	58.0	59.0	60.62	36.119	.144	- -
	29	δ Piscium	- -	5	I–IX.	122 4 57.9	65.2	61.6	61.9	57.9	57.6	60.35	34.977	.985	- -
	30	20 Ceti	- -	5	I–IX.	130 44 57.8	65.5	60.9	63.0	57.4	57.8	60.40	28.331	.347	- -
	31	26 Ceti	- -	5	I–IX.	128 14 57.9	65.2	60.0	61.0	57.2	57.7	59.83	30.529	.536	29.730
	32	Polaris	- -	5	1–5.	40 19 57.1	65.6	64.0	66.5	58.4	62.0	62.27	30.457	.464	- -
	33	Ceres	8.0	1	V.	135 29 57.3	65.7	61.2	61.5	58.2	57.3	60.20	35.489	.498	- -
	34	η Piscium	- -	5	I–IX.	114 14 57.1	66.0	62.2	64.0	57.9	59.1	61.05	30.676	.672	- -
	35	B. A. C. 504	- -	1	V.	154 34 57.8	65.9	62.6	62.9	57.5	57.7	60.73	30.658	.661	- -
	36	Lalande 3237	9.0	1	V.	131 29 57.0	64.9	60.3	61.0	56.5	56.2	59.32	31.042	.056	- -
	37	ι Arietis	- -	1	V.	111 44 57.2	65.2	60.1	62.6	57.0	58.1	60.33	31.461	.471	- -
	38	Lacaille 607	8.0	1	V.	151 29 57.1	65.0	62.2	63.2	57.9	56.8	60.37	31.220	.237	- -
	39	O. Arg. S. 1261	8.0	1	V.	" " "	"	"	"	"	"	"	37.478	.487	- -
	40	η Arietis	- -	5	III–VII.	108 19 56.8	66.5	62.0	62.0	58.0	58.2	60.58	31.495	.500	- -
	41	ξ Arietis	- -	1	V.	118 54 56.8	64.0	59.0	61.1	55.7	56.2	58.80	32.515	.523	- -
	42	Amphitrite	9.5	1	IX.	107 19 56.6	66.0	62.5	62.3	58.1	58.0	60.58	35.318	.269	29.746
	43	Nadir	- -	3	- -	269 59 57.5	65.1	60.9	64.4	58.1	60.3	61.05	29.087	.097	- -
	44	Mercury, centre	- -	5	I–IX.	138 54 60.4	67.9	62.5	65.3	60.7	60.7	62.92	26.288	.308	29.896
29	45	Sun N. L.	- -	4	I–IV.	142 19 59.5	66.8	63.2	64.6	59.2	60.0	62.22	30.965	.995	- -
	46	Sun S. L.	- -	4	VI–IX.	142 49 59.4	67.4	63.8	64.8	60.0	60.6	62.67	26.702	.696	29.890
	47	Weisse 739	9.0	5	I–IX.	143 29 58.7	64.7	62.1	62.5	57.8	59.0	60.80	24.931	.946	29.923
	48	Nadir 23h. 45m.	- -	3	- -	269 59 58.0	63.8	61.6	63.9	58.0	59.0	60.72	29.062	.072	- -
	49	Anon. 0h. 11m. 6s.	7.7	2	VI, VIII.	128 59 57.5	63.9	59.6	62.4	56.3	57.4	59.52	27.610	.589	29.956
	50	Neptune	- -	5	I–IX.	127 49 56.9	63.1	59.5	60.9	55.1	55.6	58.52	26.672	.675	- -
	51	O. Arg. S. 369	8.0	1	V.	149 49 58.0	64.5	62.9	64.2	56.1	56.5	60.37	32.919	.927	- -
	52	O. Arg. S. 442	7.2	1	V.	152 49 57.9	64.9	63.7	64.6	56.5	58.0	60.93	31.081	.096	- -
	53	O. Arg. S. 544	- -	1	V.	149 14 58.4	64.6	63.3	64.9	56.9	56.9	60.82	31.576	.581	- -
	54	26 Ceti	- -	5	I–IX.	128 14 58.2	65.3	60.5	63.8	56.5	58.2	60.42	30.541	.547	- -
	55	35 Ceti	- -	1	V.	127 9 57.4	65.2	61.8	63.7	56.9	58.5	60.58	34.135	.152	- -
	56	Polaris, (Ref.)	- -	1	4.	319 39 55.6	63.5	61.7	60.0	55.3	55.0	58.52	27.712	.718	- -
	57	η Piscium, (Ref.)	- -	5	I–IX.	245 44 55.5	63.5	62.2	63.9	56.8	59.0	60.15	27.491	.506	- -
31	58	29 Piscium	- -	1	V.	132 39 54.4	63.3	58.0	61.1	54.5	54.1	57.57	30.210	.227	30.176
	59	ι Ceti	- -	1	V.	138 29 56.4	64.3	59.6	62.5	56.5	54.9	59.03	35.106	.122	- -
	60	Nadir 1h. 0m.	- -	3	- -	269 59 57.9	65.0	61.1	64.5	57.9	59.9	61.05	29.081	.096	- -
Nov. 1	61	O. Arg. S. 21596	9.2	1	V.	147 39 57.9	64.1	62.0	64.0	55.5	56.4	59.98	29.316	.332	30.314
	62	O. Arg. S. 21645	7.5	1	IX.	" " "	"	"	"	"	"	"	24.929	.907	- -
	63	Lacaille 8993	- -	1	V.	163 19 58.1	65.0	62.9	65.4	57.0	57.4	60.97	30.679	.682	30.317
	64	O. Arg. S. 21841	- -	1	V.	151 19 57.5	64.5	62.1	64.9	56.1	55.7	60.13	33.439	.450	- -
	65	O. Arg. N. 23452	6.2	1	V.	76 14 56.9	65.2	64.5	67.1	59.4	59.9	62.17	29.901	.908	- -

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.036	+ 1.0	+ 1 31.7	147 26 32.5	— 18 32 53.3	— 90.4	N.	
2	. .	. .	. .	— 1 42.0	1 4.6	137 44 22.3	8 50 43.1	95.1		
3	. .	. .	. .	1 22.5	+ 1 20.0	143 44 57.7	— 14 51 18.5	— 93.7		
4	. .	. .	. .	35.8	— 1 33.3	32 7 52.7	+ 83 14 13.5	+ 109.1		
5	. .	45.4	. .	— 2.9	+ 5 25.2	170 10 22.8	— 41 16 43.6	— 89.7		
6	. .	. .	. .	+ 29.1	+ 5 25.5	170 10 55.1	— 41 17 15.9	89.8		
7	. .	. .	. .	2 21.4	— 20.2	71 7 2.5	+ 57 46 36.7	— 114.1		
8	. .	. .	. .	+ 1 54.7	— 4 43.6	11 22 10.5	62 28 31.3	+ 108.7		
9	48.5	42.7	. .	— 56.6	+ 45.8	127 49 48.6	+ 1 3 50.6			
10	. .	. .	. .	+ 1 19.2	4 32.8	168 5 53.6	— 39 12 14.4	— 98.2		
11	. .	. .	. .	— 56.8	4 32.0	168 3 36.8	39 9 57.6	98.2		
12	. .	. .	. .	+ 3.4	2 26.4	158 7 29.7	— 29 13 50.5	99.7		
13	. .	41.9	. .	+ 39.0	1 10.0	319 41 48.0	+ 88 35 27.3	100.2		Mercury unsteady.
14	. .	. .	. .	— 1 56.0	+ 1 0.1	135 24 4.2	— 6 30 25.0			
15	. .	. .	. .	+ 17.1	— 40.2	235 54 38.2	+ 4 48 17.5	96.6		
16	. .	. .	. .	— 18.8	+ 40.2	124 5 21.1	4 48 18.1			
17	. .	. .	. .	+ 1 42.3	+ 38.4	302 52 19.1	71 45 58.4	90.2		
18	. .	41.1	. .	— 1 40.2	— 38.4	57 7 41.3	71 45 57.9			—0″.55 applied to mean of C, D, E, F. E recorded 66″.7.
19										
20	. .	. .	. .	— 48.2	+ 18.4	107 9 31.1	21 44 8.1	83.4		
21	46.0	40.7	. .	+ 20.5	18.4	107 10 39.8	+ 21 42 59.4			
22	54.0	55.0	29.046	+ 1 1.3	1 6.9	141 52 8.4	— 12 42 22.7		Ha.	
23	. .	. .	. .	— 1 10.6	1 5.5	141 19 55.4				
24	. .	. .	29.056	1 19.0	0.2	90 13 41.4	+ 38 39 57.8	36.1		
25	54.5	49.6	. .	39.2	53.2	132 40 14.8	— 3 46 35.6	106.6		
26	. .	. .	. .	— 3 11.8	1 5.1	138 27 53.2	— 9 34 14.0	104.8		
27	. .	. .	. .	+ 43.7	44.7	127 51 27.8	+ 1 2 11.4			Through clouds; faint and uncertain.
28	. .	. .	. .	— 3 42.1	19.0	108 11 37.5	20 42 1.7	108.3		
29	. .	. .	. .	— 3 5.8	36.2	122 2 30.7	+ 6 51 8.5	105.4		
30	. .	. .	. .	+ 22.2	49.8	130 46 12.4	— 1 52 33.2	103.6		
31	54.5	49.1	. .	— 46.4	+ 45.5	128 14 58.9	+ 0 38 40.3	102.6		
32	. .	. .	. .	44.1	— 1 8.1	40 18 10.0	+ 88 35 29.2	101.2		
33	. .	. .	. .	3 21.9	+ 58.7	135 27 37.0	— 6 33 57.8			
34	. .	. .	. .	50.6	26.1	114 14 36.5	+ 14 39 2.7	99.3		
35	. .	. .	. .	50.3	2 1.2	154 36 11.6	— 25 42 32.4	93.6		
36	. .	. .	. .	1 2.7	51.2	131 29 47.8	— 2 36 8.6	94.9		
37	. .	. .	. .	1 15.7	23.1	111 44 7.7	+ 17 9 31.5	93.5		
38	. .	. .	. .	1 8.3	1 46.3	151 30 38.3	— 22 36 59.1	89.5		
39	. .	. .	. .	4 24.2	1 46.0	151 27 22.2	— 22 33 43.0	89.4		
40	. .	. .	. .	1 16.6	19.2	108 19 3.2	+ 20 34 36.0	89.4		
41	. .	. .	. .	1 48.6	32.0	118 53 42.2	9 59 57.0	85.9		
42	53.5	47.4	. .	— 3 14.6	18.1	107 17 4.0	+ 21 36 35.2			Very faint and uncertain.
43										
44	56.7	58.4	. .	+ 1 26.1	1 0.7	138 57 29.7	— 10 3 50.5		N.	
45	. .	. .	. .	— 1 0.8	1 6.8	142 20 8.2	13 42 37.2			
46	57.5	59.3	. .	+ 1 13.9	1 8.2	142 52 24.7				
47	55.5	48.5	. .	2 8.8	1 18.7	143 33 28.3	14 39 49.1	86.1		
48										Image excessively unsteady.
49	49.5	43.3	. .	46.0	47.7	129 1 33.2	— 0 7 54.0	106.7		
50	. .	. .	. .	+ 1 14.6	45.6	127 51 58.7	+ 1 1 40.5			
51	. .	43.0	. .	— 2 1.3	1 41.1	149 49 40.1	— 20 56 0.9	100.9		
52	. .	. .	. .	1 3.9	1 54.5	152 50 51.5	23 57 12.3	98.8		
53	. .	. .	. .	1 19.1	1 38.9	149 15 20.6	— 20 21 41.4	99.7		Cloudy.
54	. .	. .	. .	46.7	46.5	128 15 0.2	+ 0 38 39.0	102.5		Very unsteady.
55	. .	. .	. .	— 2 39.7	44.7	127 8 5.5	1 45 33.7	101.4		
56	. .	. .	. .	+ 41.9	+ 1 9.5	319 41 49.9	88 35 29.2	101.5		
57	. .	. .	. .	+ 48.6	— 26.6	245 45 22.1	+ 14 39 1.4	99.3		
58	52.0	48.0	. .	— 36.7	+ 54.2	132 40 15.0	— 3 46 35.8	106.3	Ha.	
59	. .	. .	. .	3 10.1	1 6.4	138 27 55.3	9 34 16.1	104.5		
60										
61	49.0	44.9	. .	— 8.7	1 33.7	147 41 25.0	18 47 45.8	84.6	N.	
62	. .	. .	. .	+ 2 10.0	1 33.9	147 43 43.8	18 50 4.6	86.5		
63	48.7	43.5	. .	— 50.9	3 16.6	163 22 26.6	34 28 47.4	84.2		
64	. .	. .	. .	2 17.7	+ 1 48.6	151 19 31.0	— 22 25 51.8	88.9		
65	. .	. .	. .	— 26.7	— 14.6	76 14 20.8	+ 52 39 18.4	— 109.5		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Nov. 1	1	B. A. C. 7745	5.3	1	V.	154 44 57.8	65.3	62.3	64.5	56.2	56.9	60.50	34.045	.059	. .
	2	B. A. C. 3528, S. P.	5.0	3	5-1.	32 9 55.9	65.2	62.8	66.0	57.3	57.4	60.77	30.129	.146	30.315
	3	35 Pegasi	5.2	1	V.	124 54 56.3	65.2	61.4	63.8	56.3	57.5	60.08	35.624	.628	. .
	4	Lalande 45545	9.0	1	V.	145 9 56.2	63.0	59.2	62.8	54.9	55.9	58.67	28.941	.950	30.306
	5	Anon. 23h. 16m. 33s.	9.0	1	V.	162 54 56.8	65.0	61.2	65.6	55.1	56.6	60.05	24.340	.355	. .
	6	Anon. 23h. 23m. 24s.	. .	1	V.	167 49 56.4	63.6	62.4	66.6	55.0	55.4	59.90	22.347	.362	. .
	7	Anon. 23h. 27m. 27s.	. .	1	V.	" " "	"	"	"	"	"	"	29.248	.265	. .
	8	τ Cassiopeæ	. .	4	I-IV.	70 59 55.4	65.3	62.2	68.1	57.2	60.5	61.45	29.651	.646	. .
	9	τ Cassiopeæ, (Ref.)	. .	4	VI-IX.	288 59 54.8	64.0	60.2	61.6	55.0	53.4	58.17	28.438	.457	. .
	10	O. Arg. S. 23176	8.8	5	III-VII.	147 39 56.1	64.4	61.5	64.9	54.5	55.7	59.52	33.077	.095	30.309
	11	γ Pegasi	. .	4	I-IV.	114 29 56.5	68.1	63.5	67.9	57.9	59.3	62.20	34.763	.790	. .
	12	γ Pegasi, (Ref.)	. .	4	VI-IX.	245 34 56.8	65.4	63.9	69.0	57.0	60.6	62.12	32.999	.987	. .
	13	Nadir 0h. 15m.	. .	5	. .	269 59 56.6	64.9	61.5	66.9	56.5	57.1	60.58	29.053	.066	. .
	14	λ^1 Sculptoris	. .	5	III-VII.	167 59 57.4	66.1	63.8	69.3	56.8	56.4	61.63	26.631	.641	. .
	15	λ^2 Sculptoris	. .	1	V.	" " "	"	"	"	"	"	"	30.947	.956	30.310
4	16	Neptune	. .	1	V.	127 54 57.0	64.1	59.5	61.1	56.9	56.8	59.23	30.572	.577	29.408
	17	55 Piscium	6.0	1	V.	108 14 57.1	67.1	61.0	63.1	58.0	58.9	60.87	36.138	.155	. .
	18	δ Piscium	. .	1	V.	122 4 57.0	65.1	60.8	63.0	57.2	57.0	60.02	34.937	.946	. .
	19	20 Ceti	. .	1	V.	130 44 56.3	65.0	59.6	62.9	56.5	56.8	59.52	28.278	.295	. .
	20	Polaris	. .	3	4.	40 19 56.8	66.1	63.0	67.0	58.7	61.4	62.17	30.541	.546	29.420
	21	η Piscium	. .	1	V.	114 14 57.4	67.2	62.1	65.3	58.6	59.5	61.68	30.733	.736	. .
	22	B. A. C. 504	. .	1	V.	154 34 56.8	65.0	61.0	63.3	56.9	57.4	60.07	30.625	.629	. .
	23	Lalande 3237	9.0	1	V.	131 29 56.5	65.0	59.2	62.8	56.3	55.9	59.28	31.005	.017	29.428
	24	ι Arietis	. .	1	V.	111 44 57.2	66.8	60.8	65.0	58.2	58.9	61.15	31.530	.537	. .
	25	Lacaille 607	. .	1	V.	151 29 57.3	66.1	63.0	64.8	58.0	57.3	61.08	31.195	.212	. .
	26	η Arietis	. .	1	V.	108 19 57.2	68.0	62.6	64.0	58.5	58.9	61.53	31.575	.580	. .
	27	Amphitrite	. .	1	VII.	107 34 57.1	66.9	63.1	64.0	59.0	58.4	61.42	28.130	.115	. .
	28	ξ Arietis	. .	1	V.	118 54 57.3	66.1	59.9	63.0	57.1	57.4	60.13	32.590	.595	. .
	29	γ Ceti	. .	1	V.	126 14 57.5	65.9	61.5	63.7	58.4	57.6	60.77	32.980	.991	29.440
	30	Nadir 2h. 48m.	. .	5	. .	269 59 57.1	65.0	61.1	65.5	58.1	59.3	61.02*d*	29.124	.140	. .
5	31	Moon S. L.	. .	5	I-IX.	144 59 57.6	66.0	61.2	63.9	57.3	56.5	60.42	28.159	.075	. .
	32	76 Draconis	6.0	3	1-5.	46 54 56.1	65.5	63.0	66.6	58.5	57.7	61.23	34.041	.053	30.004
	33	O. Arg. S. 21148	9.3	1	V.	152 19 56.1	64.5	62.0	65.3	56.0	56.0	59.98	28.969	.979	. .
	34	O. Arg. S. 21290	8.8	5	I-IX.	151 29 57.4	65.7	63.5	66.1	57.1	56.5	61.05	33.173	.187	. .
	35	Anon. 21h. 18m. 32s.	. .	3	IV-VI.	151 14 58.1	65.8	63.8	66.1	58.0	56.9	61.45	26.380	.395	. .
	36	*b* Capricorni	5.5	5	I-IX.	" " "	"	"	"	"	"	"	28.407	.429	. .
	37	O. Arg. S. 21480	9.5	1	IX.	144 4 57.7	66.4	63.0	65.4	58.1	56.8	61.23	27.625	.596	30.015
	38	O. Arg. S. 21596	9.5	1	V.	147 39 57.6	64.8	63.0	65.1	55.4	55.4	60.22	29.342	.357	. .
	39	O. Arg. S. 21629	9.0	1	V.	" " "	"	"	"	"	"	"	31.883	.889	. .
	40	O. Arg. S. 21645	8.0	1	V.	" " "	"	"	"	"	"	"	24.864	.870	. .
	41	Lacaille 8947	8.8	1	V.	156 49 57.8	65.7	62.4	66.0	57.6	55.9	60.90	32.710	.713	. .
	42	O. Arg. S. 21841	8.0	1	V.	151 14 57.5	65.4	63.5	65.6	56.7	55.9	60.77	23.925	.933	. .
	43	O. Arg. S. 21915	9.3	2	VII, IX.	" " "	"	"	"	"	"	"	33.608	.590	. .
	44	B. A. C. 8287	. .	5	III-VII.	149 49 57.0	66.4	63.0	67.2	56.6	55.5	60.95	27.460	.473	30.050
	45	α Andromedæ	. .	2	I, II.	100 34 57.5	66.5	62.9	68.3	58.0	57.5	61.78	33.793	.814	. .
	46	α Andromedæ, (Ref.)	. .	4	VI-IX.	259 29 57.1	65.1	62.7	69.0	67.9	58.9	63.45	33.998	.993	. .
	47	Anon. 0h. 11m. 9s.	7.5	1	V.	128 59 57.4	66.2	60.6	66.3	56.1	56.3	60.48	27.650	.653	30.062
	48	Neptune	. .	3	III-VII.	127 54 56.6	64.6	60.0	64.2	56.0	54.5	59.32	29.741	.744	. .
	49	Nadir 0h. 50m.	. .	4	. .	269 59 57.3	66.1	62.3	68.0	57.0	57.6	61.38*d*	29.106	.119	. .
	50	O. Arg. S. 818	8.5	1	V.	158 4 57.6	68.1	64.1	69.3	56.0	55.0	61.68	32.052	.066	. .
	51	Lacaille 451	7.2	1	V.	158 19 57.8	68.4	64.0	69.6	56.1	55.0	60.15	29.595	.600	. .
	52	Lacaille 492	7.0	1	V.	162 59 57.5	68.4	63.6	69.4	56.9	57.2	62.17	37.957	.967	30.080
	53	ε Cassiopeæ	. .	3	III-V.	65 54 55.9	66.8	64.0	69.0	57.6	58.3	61.93	31.442	.454	. .
	54	ε Cassiopeæ, (Ref.)	. .	4	VI-IX.	294 4 56.4	66.4	64.7	67.9	57.7	55.5	61.43	26.758	.778	. .
	55	α Arietis, (Ref.)	. .	3	I, III, IV.	253 54 56.3	66.2	65.1	71.0	56.8	57.8	62.20	27.017	.067	. .
	56	α Arietis	. .	2	VIII, IX.	106 4 56.5	69.9	65.0	70.9	58.0	57.8	63.02	31.282	.243	30.081
	57	Amphitrite	9.2	1	V.	107 39 56.9	69.3	64.0	69.0	57.9	57.5	62.43	31.884	.890	. .
10	58	Venus, centre	. .	5	I-IX.	153 4 57.8	60.6	59.0	57.3	57.9	61.0	58.93	29.055	.079	29.662
	59	α Lyræ	. .	5	III-VII.	90 14 58.0	64.1	59.8	59.2	61.1	65.3	61.25	31.583	.582	. .
	60	O. Arg. S. 21912	. .	1	V.	147 19 58.8	63.9	60.1	60.9	56.4	62.2	60.38	26.123	.139	29.737
	61	B.A.C.3528,S.P.(Ref.)	. .	1	. .	327 49 57.5	65.0	61.4	59.7	58.2	60.3	60.35	27.862	.843	29.728
	62	B. A. C. 7851 (Ref.)	. .	2	. .	316 29 57.9	62.0	59.2	57.6	57.0	60.1	58.97	26.430	.465	. .
	63	O. Arg. S. 22373	9.3	1	V.	155 49 58.2	63.8	60.1	60.2	57.4	60.2	59.98	26.241	.258	. .
	64	B. A. C. 8026, (Ref.)	. .	3	. .	314 44 58.4	64.0	61.2	59.6	57.9	61.6	60.45	32.250	.588	. .
	65	O. Arg. S. 22687	. .	1	VIII.	152 44 59.0	64.8	62.8	62.9	58.0	62.0	61.58	27.031	.022	. .
	66	Lacaille 9425	7.2	1	V.	" " "	"	"	"	"	"	"	20.727	.730	29.737

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.056	— 2 36.8	+ 2 5.9	154 44 29.6	— 25 50 50.4	— 89.6	N.	
2	48.3	42.0	. .	34.2	— 1 34.9	32 7 51.6	+ 83 14 12.4	+ 110.7		
3	. .	. .	. .	— 3 25.9	+ 41.7	124 52 15.8	+ 4 1 23.4	— 102.0		
4	46.0	39.7	. .	+ 3.3	1 26.2	145 11 28.1	— 16 17 48.9	101.5		
5	. .	. .	. .	2 27.3	3 13.8	163 0 41.1	34 7 1.9	96.8		
6	. .	. .	. .	+ 3 29.8	4 33.8	167 58 3.5	39 4 24.3	95.9		Faint and uncertain.
7	. .	. .	. .	— 6.5	+ 4 32.5	167 54 25.9	— 39 0 46.7	96.2		
8	. .	. .	. .	— 18.5	— 20.7	70 59 22.2	+ 57 54 17.0	116.5		
9	. .	. .	. .	+ 18.8	+ 20.7	289 0 37.6	+ 57 54 16.8			
10	45.0	38.6	. .	— 2 6.6	1 34.8	147 39 27.7	— 18 45 48.5	102.6		
11	. .	. .	. .	2 59.7	+ 27.4	114 27 29.9	+ 14 26 9.3	109.9		
12	. .	. .	. .	— 2 3.2	— 27.4	245 32 31.5	+ 14 26 10.7			Very unsteady.
13										
14	. .	. .	. .	+ 1 15.7	+ 4 37.8	168 5 55.1	— 39 12 15.9	96.6		
15	44.5	37.6	. .	— 59.5	4 37.0	168 3 39.1	— 39 9 59.9	96.5		
16	49.0	43.9	29.108	46.0	44.8	127 54 58.0	+ 0 58 41.2		Ha.	
17	. .	. .	. .	3 40.8	19.0	108 11 39.0	20 42 0.2	108.8		
18	. .	. .	. .	— 3 2.9	36.2	122 2 33.3	+ 6 51 5.9	105.4		
19	. .	. .	. .	+ 25.5	+ 49.9	130 46 14.9	— 1 52 35.7	103.2		Star unsteady. Poor observation.
20	48.0	41.2	. .	— 45.1	— 1 8.4	40 18 8.6	+ 88 35 30.6	103.8		
21	. .	. .		51.0	+ 26.2	114 14 36.8	+ 14 39 2.4	99.6		
22	. .	. .	. .	47.7	2 1.8	154 36 14.1	— 25 42 34.9	92.3		
23	47.5	41.2	. .	59.8	51.4	131 29 50.8	— 2 36 11.6	94.5		
24	. .	. .	. .	1 16.1	23.2	111 44 8.2	+ 17 9 31.0	93.8		
25	. .	. .	. .	1 5.9	1 46.7	151 30 41.8	— 22 37 2.6	88.2		
26	. .	. .	. .	— 1 17.5	19.3	108 19 3.3	+ 20 34 35.9	89.9		
27	. .	. .	. .	+ 31.1	18.5	107 35 51.0	21 17 48.2			
28	. .	. .	. .	— 1 49.2	32.1	118 53 43.0	9 59 56.2	85.9		
29	46.5	41.0	. .	— 2 1.7	+ 42.6	126 13 41.6	+ 2 39 57.6	80.0		
30										
31	45.5	41.0	29.075	+ 28.1	— 62 17.3	143 58 11.2	— 15 4 32.0		N.	
32	44.5	38.8	. .	— 2 36.0	— 55.8	46 51 29.4	+ 82 2 9.8	94.5		
33	. .	. .	. .	+ 3.0	+ 1 53.4	152 21 56.3	— 23 28 17.1	74.6		
34	. .	. .	. .	— 2 8.8	1 49.4	151 29 41.6	22 36 2.4	77.7		
35	. .	. .	. .	+ 1 24.0	1 48.5	151 18 13.9	22 24 34.7	79.7		
36	. .	. .	. .	20.2	1 48.4	151 17 10.0	22 23 30.8	80.4		
37	44.0	38.1	. .	+ 46.3	1 22.4	144 7 9.9	15 13 30.7	84.6		Faint and uncertain.
38	. .	. .	. .	— 8.8	1 34.2	147 41 25.6	18 47 46.4	85.5		Faint and uncertain.
39	. .	. .	. .	— 1 28.2	1 34.1	147 40 6.1	18 46 26.9	86.1		
40	. .	. .	. .	+ 2 11.8	1 34.3	147 43 46.3	18 50 7.1	86.4		
41	. .	. .	. .	— 1 54.0	2 18.7	156 50 25.6	27 56 46.4	84.2		
42	. .	. .	. .	+ 2 41.1	1 49.0	151 19 30.8	22 25 51.6	88.7		
43	. .	. .	. .	— 2 21.5	1 48.6	151 14 27.8	22 20 48.6	91.1		
44	41.0	33.6	. .	+ 50.2	1 43.6	149 52 34.7	— 20 58 55.5	101.5		
45	. .	. .	. .	— 2 28.5	+ 11.2	100 32 44.4	+ 28 20 54.8	113.0		
46	. .	. .	. .	— 2 34.1	— 11.2	259 27 18.1	+ 28 20 57.3			
47	40.5	32.8	. .	+ 44.6	+ 49.0	129 1 34.0	— 0 7 54.8	106.6		
48	. .	. .	. .	— 21.0	46.9	127 55 25.2	+ 0 58 14.0			
49										
50	. .	. .	. .	1 33.7	2 29.7	158 5 57.6	— 29 12 18.4	93.8		
51	. .	. .	. .	16.4	2 31.8	158 22 15.5	29 28 36.3	92.3		
52	37.7	31.0	. .	4 38.6	+ 3 15.5	162 58 39.0	— 34 4 59.8	90.3		
53	. .	. .	. .	— 1 14.5	— 27.2	65 53 20.2	+ 63 0 19.0	96.4		
54	. .	. .	. .	+ 1 12.0	+ 27.2	294 6 40.6	63 0 19.8			
55	. .	. .	. .	+ 1 2.9	— 17.5	253 55 47.6	22 49 26.9	91.7		
56	37.5	30.0	. .	— 1 7.9	+ 17.5	106 4 12.6	22 49 26.6			
57	. .	. .	. .	1 28.2	19.4	107 38 53.6	+ 21 14 45.6			
58	65.0	64.7	29.072	0.2	1 44.1	153 6 42.8	— 24 13 3.6			Wires of microscopes E and F bent a little.
59	. .	. .	. .	— 1 18.7	0.2	90 13 42.7	+ 38 39 56.5	34.5	Ha.	
60	59.3	53.1	. .	+ 1 31.9	1 29.3	147 23 1.5	— 18 29 22.3	— 90.5	N.	
61	59.0	52.8	. .	38.5	1 31.1	327 52 9.9	+ 83 14 10.8	+ 112.4		At 22h. 16m. 45s.
62	. .	. .	. .	1 21.7	1 0.5	316 32 21.1	+ 85 26 0.4	— 114.9		At 22h. 25m. 57s., and 26m. 15s.
63	. .	. .	. .	+ 1 28.2	2 7.8	155 53 35.9	— 26 59 56.7	93.5		Faint and uncertain. [33s.
64	. .	. .	. .	— 1 50.2	57.0	314 44 7.2	+ 83 37 46.5	118.0		At 22h. 52m. 35s., 23h. 2m. 45s., and 23h. 3m.
65	. .	. .	. .	+ 1 4.2	1 51.5	152 47 57.2	— 23 54 18.0	97.9		Faint and uncertain.
66	. .	50.6	. .	+ 4 21.4	+ 1 52.4	152 51 15.3	— 23 57 36.1	— 98.1		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Nov. 10	1	Nadir 23h. 25m.	- -	4	- -	269 59 58.3	65.4	60.6	63.9	59.2	64.4	61.97	29.122	.135	- -
	2	τ Cassiopeæ, (Ref.)	- -	4	I–IV.	288 59 57.6	64.3	60.0	59.9	57.8	61.9	60.25	28.366	.449	- -
	3	τ Cassiopeæ	- -	3	VII–IX.	70 59 57.4	65.0	62.2	66.0	59.8	66.9	62.88	29.910	.833	- -
	4	O. Arg. S. 23204	6.3	1	V.	149 39 58.0	64.0	61.0	62.2	56.8	60.1	60.35	29.032	.045	- -
	5	Weisse XXIII, 1267	8.0	5	I–IX.	128 54 58.5	65.5	59.5	61.1	57.9	63.1	60.93	26.610	.614	29.743
	6	Neptune	- -	5	I–IX.	127 54 58.0	64.4	58.6	60.9	57.0	61.5	60.07	25.547	.553	- -
	7	Anon. 0h. 29m. 41s.	- -	1	V.	167 49 58.8	65.4	63.3	65.4	58.2	60.6	61.95	26.209	.226	- -
	8	δ Piscium	- -	4	I–IV.	122 4 58.5	65.5	61.7	62.8	57.5	62.4	61.40	34.975	.012	- -
	9	δ Piscium, (Ref.)	- -	4	VI–IX.	237 59 58.1	63.8	63.9	65.0	60.7	65.2	62.78	32.915	.896	- -
	10	Moon S. L.	- -	5	I–IX.	122 4 58.9	66.4	62.1	62.6	57.8	62.2	61.67	28.888	.894	- -
	11	Ceres	- -	5	I–IX.	137 24 58.7	66.9	62.5	62.6	59.8	62.9	62.23	32.971	.985	29.706
	12	O. Arg. S. 818	8.8	1	V.	158 4 58.5	66.6	62.5	64.0	57.2	60.6	61.57	31.870	.876	- -
	13	μ Piscium	- -	5	III–VII.	123 24 58.9	66.2	63.0	63.2	57.9	62.1	61.88	27.033	.045	- -
	14	Lacaille 451	7.8	1	V.	158 19 60.1	67.9	64.3	65.4	58.9	61.9	63.08	29.395	.408	- -
11	15	Sun S. L.	- -	2	III, IV.	146 49 60.3	68.1	61.6	64.7	58.1	63.0	62.63	34.584	.603	29.850
	16	Sun N. L.	- -	2	VIII, IX.	146 14 59.9	69.8	63.2	66.7	60.2	63.1	63.82	29.678	.669	- -
	17	α Lyræ	- -	5	III–VII.	90 14 61.0	70.0	63.8	66.9	62.0	65.8	64.92	31.682	.678	- -
12	18	Anon. 23h. 16m. 31s.	- -	1	V.	162 54 58.1	66.5	61.9	65.7	56.2	61.3	61.62	24.255	.261	- -
	19	Anon. 23h. 23m. 22s.	- -	1	VIII.	167 54 57.0	63.5	61.3	64.8	55.9	58.0	60.08	31.689	.678	- -
	20	Anon. 23h. 27m. 25s.	- -	1	V.	" " "	"	"	"	"	"	"	38.574	.578	- -
	21	O. Arg. S. 23082	7.0	5	I–IX.	147 54 57.0	63.8	60.2	62.4	54.3	58.4	59.35	29.860	.869	- -
	22	O. Arg. S. 23096	7.5	1	V.	147 39 57.2	64.4	61.6	63.1	55.0	58.4	59.95	31.647	.649	29.755
	23	O. Arg. S. 23176	8.3	1	V.	" " "	"	"	"	"	"	"	33.004	.005	- -
	24	Lacaille 9715	7.3	5	III–VII.	168 29 57.8	64.9	62.5	65.9	56.4	59.5	61.17	37.354	.366	- -
	25	Lacaille 9725	6.8	1	V.	" " "	"	"	"	"	"	"	35.149	.153	- -
	26	Weisse XXIII, 1267	7.0	1	V	128 54 57.0	64.6	59.1	63.0	55.6	60.6	59.98	26.595	.598	- -
	27	Anon. 0h. 9m. 54s.	- -	1	V.	128 49 56.8	64.6	59.4	62.8	55.3	59.5	59.73	26.281	.287	- -
	28	Neptune	- -	5	I–IX.	127 54 57.7	64.6	59.1	62.0	55.1	59.0	59.58	24.017	.017	- -
	29	Lacaille 126	8.5	1	V.	168 14 57.5	64.4	62.2	65.6	55.5	57.0	60.37	29.294	.300	- -
	30	Anon. 0h. 32m. 17s.	9.0	1	V.	161 39 56.7	65.0	61.4	64.1	54.2	58.4	59.97	34.150	.154	- -
	31	Nadir 0h. 50m.	- -	5	- -	269 59 57.5	66.4	60.9	65.6	57.6	60.5	61.42	29.088	.091	- -
	32	Anon. 0h. 56m. 59s.	7.0	1	V.	161 39 58.0	66.5	63.0	66.2	55.8	58.6	61.35	30.957	.957	29.796
	33	Polaris	- -	5	1, 5.	40 19 57.0	67.9	63.7	70.4	58.1	63.0	63.35	30.587	.586	- -
	34	μ Piscium	4.5	5	I–IX.	123 24 56.9	66.4	61.4	65.1	55.5	59.4	60.78	26.992	.991	- -
	35	Lacaille 451	6.5	1	V.	158 19 56.9	66.8	61.9	65.8	55.4	57.5	60.72	29.387	.393	- -
	36	Lacaille 492	7.5	1	V.	162 54 56.7	66.2	61.6	65.5	55.0	58.9	60.65	28.215	.220	- -
	37	ξ Piscium	- -	1	V.	126 19 57.1	66.0	60.1	64.2	55.5	58.5	60.23	28.856	.856	- -
	38	O. Arg. S. 1181	9.0	1	V.	147 34 57.2	66.0	61.7	63.6	54.7	58.4	60.27	34.695	.696	- -
	39	O. Arg. S. 1210	8.7	1	VI.	" " "	"	"	"	"	"	"	28.769	.758	29.816
	40	α Draconis, S. P.	- -	5	VII–III.	13 59 55.2	67.1	61.0	66.1	54.7	57.1	60.20	31.291	.313	- -
	41	O. Arg. S. 1421	8.3	1	V.	145 29 56.6	66.5	61.3	63.6	56.4	58.8	60.53	31.745	.746	- -
	42	ξ^2 Ceti	- -	4	I–IV.	120 59 56.5	66.0	60.0	65.2	54.9	58.1	60.12	25.574	.605	- -
	43	ξ^2 Ceti, (Ref.)	- -	4	VI–IX.	238 59 55.6	64.3	61.9	66.3	57.2	60.9	61.03	32.574	.551	- -
	44	Lacaille 803	- -	1	V.	152 24 55.5	65.4	61.6	65.5	54.7	56.9	59.93	25.998	.999	- -
	45	η Persei	- -	4	I–IV.	73 34 55.2	66.5	62.4	68.5	57.2	60.2	61.67	31.107	.105	- -
	46	η Persei, (Ref.)	- -	4	VI–IX.	286 24 56.0	64.5	60.7	64.2	55.2	57.5	59.68	26.970	.976	- -
	47	Moon S. L.	- -	5	I–IX.	113 54 54.4	64.6	59.1	64.0	53.7	56.1	58.65	26.181	.178	- -
	48	α Ceti	- -	5	I–IX.	125 19 57.9	68.9	62.6	66.7	57.0	59.8	62.15	30.172	.175	29.824
	49	Nadir 3h. 6m.	- -	4	- -	269 59 56.9	67.1	61.6	66.9	57.0	59.6	61.52	29.084	.087	- -
	50	B. A. C. 2899	- -	1	V.	109 9 59.1	69.9	64.0	69.8	58.1	62.0	63.82	30.491	.496	- -
	51	Anon. 8h. 32m. 36s.	- -	1	V.	109 9 60.4	69.4	61.9	70.3	57.6	61.5	63.52	40.672	.674	29.770
	52	Nadir 9h. 15m.	- -	5	- -	269 59 58.4	71.0	62.7	70.6	58.4	59.8	63.48	29.170	.174	- -
14	53	Sun N. L.	- -	3	II–IV.	147 4 57.4	68.3	60.9	66.4	57.1	58.2	61.38	34.150	.174	- -
	54	Sun S. L.	- -	4	VI–IX.	147 34 57.5	68.7	62.0	65.9	56.2	58.0	61.38	29.618	.612	30.240
	55	Venus	- -	5	III–VII.	153 34 56.9	67.6	62.1	67.2	55.8	57.0	61.10	30.856	.859	30.216
	56	α Lyræ	- -	1	V.	90 14 57.9	71.9	63.2	68.8	59.3	60.6	63.62	31.630	.632	- -
	57	α Aquarii	- -	1	V.	129 49 57.1	71.4	60.8	70.0	59.3	59.0	62.93	27.081	.084	30.258
	58	O. Arg. S. 22146	8.0	1	V.	147 54 54.9	67.6	59.1	66.1	54.0	55.2	59.48	30.360	.366	- -
	59	Lacaille 9256	7.0	1	V.	155 29 54.9	69.0	61.5	67.3	57.0	55.2	60.82	31.895	.895	- -
	60	τ^6 Aquarii	6.0	1	V.	143 9 54.8	68.7	61.1	68.3	57.1	56.8	61.13	28.250	.256	- -
	61	α Piscis Australis	- -	1	V.	159 14 55.0	69.1	61.6	69.2	57.0	57.0	61.48	36.305	.311	30.262
	62	Lalande 45892	7.0	1	V.	144 54 55.1	68.5	59.2	66.0	57.4	56.0	60.37	35.826	.826	- -
	63	O. Arg. S. 22851	7.0	1	V.	" " "	"	"	"	"	"	"	29.789	.789	30.258
	64	108 Aquarii	6.5	1	V.	148 34 55.1	68.4	61.7	67.1	56.8	55.1	60.70	35.765	.766	- -
	65	Lalande 46769	7.0	1	V.	148 14 55.3	67.2	61.0	67.2	55.5	55.0	60.20	37.295	.301	- -

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.072						N.	
2	. .	. .	. .	+ 19.5	+ 19.9	289 0 39.6	+ 57 54 18.9	— 118.3		
3	. .	. .	. .	— 23.8	— 19.9	70 59 19.1	+ 57 54 20.1			
4	. .	. .	. .	+ 0.8	+ 1 38.4	149 41 39.5	— 20 48 0.3	100.8		
5	57.0	49.9	. .	1 17.0	46.7	128 57 4.6	— 0 3 25.4	106.6		
6	. .	. .	. .	1 50.3	44.9	127 57 35.2	+ 0 56 4.0			
7	. .	49.0	. .	+ 1 29.2	4 22.7	167 55 53.8	— 39 2 14.6	95.1		Faint and uncertain.
8	. .	. .	. .	— 3 6.2	+ 36.2	122 2 31.4	+ 6 51 7.8	105.2		
9	. .	. .	. .	— 1 59.8	— 36.2	237 57 26.7	6 51 6.0			
10	. .	. .	. .	+ 5.6	— 47 23.7	121 17 43.5	+ 7 35 55.7			
11	55.3	49.4	. .	— 2 2.6	+ 1 2.8	137 24 2.4	— 8 30 23.2			
12	. .	. .	. .	— 1 27.8	2 22.7	158 5 56.4	— 29 12 17.2	92.7		
13	. .	. .	. .	+ 1 3.5	38.2	123 26 43.5	+ 5 26 55.7	98.4		
14	. .	49.0	. .	— 10.5	2 24.8	158 20 7.0	— 29 28 38.1	91.2		Ext. thermometer recorded 59°. 0.
15	55.0	51.6	29.062	2 53.9	1 20.8	146 48 29.5 }	— 17 38 37.5		Ha.	
16	. .	. .	. .	19.0	79.1	146 16 3.9 }				
17	. .	. .	. .	— 1 22.0	0.2	90 13 43.1	+ 38 39 56.1	34.3		
18	. .	41.8	29.042	+ 2 29.8	3 9.3	163 0 40.7	— 34 7 1.5	95.4	N.	
19	. .	. .	. .	— 1 22.6	4 27.4	167 58 4.8	39 4 25.6	94.3		
20	. .	. .	. .	4 58.8	4 26.2	167 54 27.4	39 0 48.2	94.6		
21	. .	. .	. .	25.9	1 33.5	147 56 6.9	19 2 27.7	101.2		
22	48.7	41.3	. .	1 21.7	1 32.5	147 40 10.7	18 46 31.5	101.3		
23	. .	. .	. .	2 4.2	1 32.6	147 39 28.3	18 45 49.1	101.3		
24	. .	. .	. .	4 20.8	4 39.0	168 30 19.3	39 36 40.1	95.4		
25	. .	. .	. .	— 3 11.5	4 40.5	168 31 30.1	39 37 50.9	95.4		
26	. .	. .	. .	+ 1 16.6	47.5	128 57 4.0	— 0 3 24.8	106.6		
27	. .	. .	. .	1 26.3	47.4	128 52 13.4	+ 0 1 25.8	106.3		Recorded circle reading 128° 54′.
28	. .	40.9	. .	+ 2 37.4	45.8	127 58 22.7	+ 0 55 16.5			
29	. .	. .	. .	— 8.1	4 37.0	168 19 29.2	— 39 25 50.0	94.8		
30	. .	. .	. .	2 40.2	2 55.7	161 40 15.4	32 46 36.2	96.2		
31										
32	47.0	39.7	. .	1 0.0	+ 2 56.4	161 41 57.7	— 32 48 18.5	94.2		
33	. .	. .	. .	— 48.4	— 1 9.5	40 18 5.4	+ 88 35 33.8	106.5		
34	. .	. .	. .	+ 1 4.3	+ 39.0	123 26 44.0	+ 5 26 55.2	98.5		
35	. .	. .	. .	— 11.0	2 27.8	158 22 17.5	— 29 28 38.3	90.8		
36	. .	39.5	. .	+ 25.8	3 10.3	162 58 36.7	— 34 4 57.5	88.8		
37	. .	. .	. .	+ 1 39.8	43.6	126 22 23.6	+ 2 31 15.6	93.0		
38	. .	. .	. .	— 2 57.2	1 32.9	147 33 35.9	— 18 39 56.7	88.7		
39	45.5	38.9	. .	+ 8.9	+ 1 33.1	147 36 42.2	— 18 43 3.0	— 88.2		
40	. .	. .	. .	— 1 11.2	— 3 53.9	13 54 55.1	+ 65 1 15.9	+ 89.4		
41	. .	. .	. .	— 1 24.7	+ 1 26.0	145 30 1.8	— 16 36 22.6	— 84.8		
42	. .	. .	. .	+ 1 47.7	+ 35.7	121 2 23.5	+ 7 51 15.7	84.7		
43	. .	38.6	. .	— 1 49.9	— 35.7	238 57 35.4	+ 7 51 14.7	84.7		
44	. .	. .	. .	+ 1 35.3	+ 1 53.2	152 28 28.4	— 23 34 49.2	78.2		
45	. .	. .	. .	— 1 4.6	— 17.5	73 33 39.5	+ 55 19 59.7	79.5		
46	. .	. .	. .	+ 1 4.7	+ 17.5	286 26 21.8	55 20 1.1			
47	. .	. .	. .	+ 1 29.7	— 39 38.9	113 16 49.2	15 36 49.8			
48	44.5	38.4	. .	— 35.5	+ 42.0	125 20 8.6	3 33 30.6	— 73.6		
49										
50	. .	. .	29.063	44.9	20.7	109 9 39.6	19 43 59.6	+ 69.2	H.*	* Prof. Hall.
51	43.5	35.2	. .	6 3.8	20.6	109 4 20.3	+ 19 49 18.9	+ 70.1		
52										
53	. .	. .	29.060	2 40.2	1 25.2	147 3 46.3 }	— 18 26 19.5		N.	
54	42.2	38.6	. .	17.3	1 27.1	147 36 11.1 }				
55	40.0	38.5	. .	56.4	1 54.7	153 35 59.4	— 24 42 20.2			
56	. .	. .	29.085	— 1 19.8	0.2	90 13 44.0	+ 38 39 55.2	— 35.0	Ha.	
57	38.0	33.2	. .	+ 1 2.7	50.8	129 51 56.4	— 0 58 17.2	96.0		
58	. .	.	. .	— 40.1	1 36.9	147 55 56.2	19 2 17.0	93.2		
59	. .	. .	. .	— 1 28.0	2 13.1	155 30 45.9	26 37 6.7	93.8		
60	. .	. .	. .	+ 26.0	1 21.4	143 11 48.5	14 18 9.3	98.2		
61	38.0	31.7	. .	— 3 46.4	2 39.4	159 13 54.4	30 20 15.2	93.7		
62	. .	. .	. .	3 31.2	1 26.7	144 52 55.8	15 59 16.6	101.0		
63	38.0	30.8	. .	22.1	1 26.9	144 56 5.1	16 2 25.9	101.0		
64	. .	. .	. .	3 29.3	1 39.7	148 33 11.1	19 39 31.9	100.6		
65	. .	. .	. .	— 4 17.4	+ 1 38.4	148 12 21.2	— 19 18 42.0	— 100.8		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Nov. 14	1	O. Arg. S. 23204	7.0	1	V.	149 39 55.7	68.7	61.8	68.9	56.9	56.0	61.33	29.281	.287	- -
	2	Lacaille 48	7.0	1	V.	153 14 54.9	68.0	61.5	67.4	56.4	57.0	60.87	30.260	.266	- -
	3	Neptune	- -	1	V.	127 59 54.9	68.4	59.0	66.8	56.3	55.2	60.10	32.312	.318	30.256
	4	δ Cassiopeæ	- -	1	V.	69 24 55.4	70.2	65.1	72.0	59.0	60.3	63.67	35.136	.140	30.266
	5	μ Piscium	- -	1	V.	123 29 55.0	69.8	61.1	67.7	56.1	56.4	61.02	36.688	.689	- -
	6	ν Piscium	- -	1	VII.	124 4 55.7	70.2	62.0	69.4	57.5	58.1	62.15	29.900	.874	- -
	7	Lacaille 513	7.0	1	V.	156 54 54.9	68.7	60.8	68.5	56.1	55.2	60.70	33.422	.428	30.260
	8	Nadir 2h. 0m.	- -	5	- -	269 59 54.5	67.1	59.0	68.6	54.9	57.3	60.23	29.090	.093	- -
15	9	B. A. C. 2899	- -	1	V.	109 9 55.2	70.5	60.8	67.1	58.7	58.4	61.78	30.483	.488	30.352
	10	Anon. 8h. 32m. 36s.	- -	1	V.	" " "	"	"	"	"	"	"	40.635	.637	- -
	11	Nadir	- -	5	- -	269 59 54.6	66.4	58.0	67.0	58.5	58.6	60.52	29.089	.092	- -
16	12	Sun N. L.	- -	4	I–IV.	147 34 55.1	66.5	58.2	61.6	56.0	56.9	59.05	33.891	.917	30.444
	13	Sun S. L.	- -	4	VI–IX.	148 4 54.8	66.0	58.5	63.0	56.3	55.8	59.07	29.327	.323	- -
	14	α Cassiopeæ, (Ref.)	- -	4	I–IV.	286 54 55.0	63.3	56.6	59.4	56.2	56.1	57.77	30.663	.731	- -
	15	α Cassiopeæ	- -	4	VI–IX.	73 4 55.1	68.0	59.7	66.5	60.3	60.8	61.73	27.435	.375	30.450
	16	Polaris, (Ref.)	- -	5	- -	319 39 54.4	64.8	58.0	58.2	57.1	55.7	58.03	27.508	.531	- -
	17	Polaris	- -	3	2–4.	40 19 54.2	67.0	59.5	66.1	58.1	61.0	60.98	30.481	.485	30.448
	18	Nadir 2h. 2m.	- -	3	- -	269 59 53.8	64.5	56.9	61.1	57.0	57.1	58.40*d*	28.995	.996	- -
19	19	Sun S. L.	- -	4	I–IV.	148 44 57.5	66.3	58.6	62.3	58.2	59.2	60.35	24.409	.442	- -
	20	Sun N. L.	- -	4	VI–IX.	148 14 57.7	66.4	59.7	62.0	59.1	59.9	60.80	28.961	.951	30.212
	21	ε Piscis Australis	- -	1	V.	156 34 58.0	68.4	60.3	65.9	59.0	60.5	62.02	26.910	.910	30.138
	22	Lacaille 9256	- -	1	VI.	155 29 58.1	67.3	61.2	64.3	58.8	59.8	61.58	31.768	.757	30.128
	23	α Ursæ Majoris, S. P.	- -	5	VII–III.	11 29 56.0	67.5	62.0	66.8	59.0	58.8	61.68	35.113	.130	- -
	24	Nadir 2h.	- -	4	- -	269 59 57.6	67.0	60.9	66.1	58.5	60.7	61.80	29.133	.136	- -
23	25	Sun N. L.	- -	4	I–IV.	149 9 56.5	71.1	62.7	69.3	57.0	54.8	61.90	35.075	.106	30.230
	26	Sun S. L.	- -	4	VI–IX.	149 39 56.2	70.9	63.2	69.2	58.4	55.0	62.15	30.381	.376	- -
	27	Venus, centre	- -	5	III–VII.	153 59 56.0	69.0	61.0	66.1	56.8	55.1	60.67	35.585	.591	30.264
	28	26 Ceti	- -	1	V.	128 14 56.0	68.9	58.8	66.9	56.6	54.4	60.27	30.668	.670	30.400
	29	β Andromedæ	- -	1	V.	93 59 56.2	71.2	61.9	70.9	59.0	58.0	62.87	30.828	.828	- -
	30	Polaris	- -	5	1–5.	40 19 56.5	70.9	63.7	73.5	59.7	60.0	64.05	30.666	.664	- -
	31	103 Piscium	- -	1	V.	112 59 55.1	69.5	61.9	69.1	57.0	55.1	61.28	35.427	.433	- -
	32	Lacaille 513	- -	1	V.	156 54 54.9	69.0	60.8	68.8	57.7	53.8	60.83	33.466	.472	30.412
	33	α Arietis	- -	1	V.	106 4 54.7	72.1	62.8	70.7	59.0	56.0	62.55	31.331	.337	- -
	34	19 Arietis	- -	1	V.	114 14 55.3	70.2	61.4	70.0	58.1	56.0	61.83	30.385	.391	30.420
	35	α Ceti	- -	1	V.	125 19 55.0	70.3	61.0	69.0	58.0	56.0	61.55	30.351	.357	- -
	36	53 Arietis	- -	1	V.	111 34 55.0	71.0	60.6	70.0	57.7	56.8	61.85	35.371	.377	30.438
	37	Nadir 3h. 15m.	- -	3	- -	269 59 55.2	69.0	59.5	70.5	56.5	56.2	61.15	29.142	.145	- -
24	38	Anon. 23h. 12m. 46s.	- -	1	V.	167 59 57.5	68.5	60.9	69.1	60.6	58.1	62.45	29.335	.341	- -
	39	Anon. 23h. 13m. 15s.	- -	1	V.	" " "	"	"	"	"	"	"	23.319	.325	30.525
	40	Anon. 23h. 20m. 26s.	7.2	1	V.	163 9 58.0	69.0	60.8	67.9	60.4	59.6	62.62	24.659	.661	- -
	41	B. A. C. 8213	5.3	2	4, 5.	42 19 56.7	68.4	61.5	68.7	61.5	61.0	62.97	27.963	.961	- -
	42	B. A. C. 8287	6.5	5	I–IX.	149 49 57.2	68.2	60.1	67.0	59.2	58.1	61.63	27.478	.491	- -
	43	O. Arg. S. 23096	8.0	4	VI–IX.	147 39 56.2	66.9	58.7	65.1	67.4	56.7	61.83	31.827	.805	30.524
	44	O. Arg. S. 23176	8.7	1	V.	" " "	"	"	"	"	"	"	33.155	.159	- -
	45	γ Pegasi, (Ref.)	- -	4	III–VI.	245 34 56.4	66.9	60.0	67.7	59.1	61.3	61.90	33.079	.089	- -
	46	Nadir 0h. 15m.	- -	4	- -	269 59 56.2	66.8	57.2	65.9	58.1	58.0	60.37	29.093	.097	- -
	47	Neptune	- -	5	I–IX.	127 59 56.1	66.8	57.0	63.9	57.9	57.0	59.80	26.361	.366	30.520
	48	B. A. C. 2899	- -	1	V.	109 9 61.4	72.8	64.0	72.1	62.0	62.0	65.72	30.650	.652	30.510
	49	Anon. 8h. 32m. 36s.	- -	1	V.	" " "	"	"	"	"	"	"	40.804	.804	- -
	50	Nadir	- -	5	- -	269 59 60.8	72.3	62.4	72.6	62.7	61.2	65.33	29.296	.302	- -
25	51	Venus, centre	- -	5	III–VII.	153 54 55.0	66.0	56.1	62.9	56.3	55.1	58.87	32.213	.221	30.570
	52	α Lyræ	- -	1	VI.	90 14 54.9	68.3	57.1	64.1	60.5	59.4	60.72	31.538	.524	- -
	53	α Aquarii	- -	5	I–IX.	129 49 56.1	65.9	64.7	61.9	58.5	58.5	60.93	26.927	.928	30.499
	54	α Andromedæ, (Ref.)	- -	4	I–IV.	259 24 57.1	65.1	58.0	64.0	61.1	60.8	61.02	24.361	.410	- -
	55	α Andromedæ	- -	2	VIII, IX.	100 29 56.0	66.2	57.0	62.5	60.1	59.8	60.27	24.348	.293	30.500
	56	Lacaille 48	7.5	1	V.	153 14 56.5	65.2	58.0	62.0	59.0	58.2	59.82	30.101	.104	- -
	57	Neptune	- -	5	III–VII.	128 4 56.8	67.0	56.0	61.8	60.0	58.1	59.95	35.455	.460	- -
	58	α Cassiopeæ, (Ref.)	- -	4	I–IV.	286 54 54.6	63.4	55.0	59.1	57.7	55.9	57.62	30.655	.722	- -
	59	α Cassiopeæ	- -	4	VI–IX.	73 4 54.9	66.0	56.9	63.1	59.9	59.6	60.07	27.468	.408	- -
	60	Polaris	- -	3	V.	40 19 55.0	66.4	57.3	65.1	59.1	61.0	60.65	30.622	.625	30.492
	61	Nadir 2h. 20m.	- -	5	- -	269 59 55.1	64.8	55.0	61.5	58.0	58.1	58.75	29.056	.059	- -
29	62	Sun N. L.	- -	4	I–IV.	150 14 57.4	64.8	57.0	59.9	59.2	61.4	59.95	32.326	.347	- -
	63	Sun S. L.	- -	4	VI–IX.	150 44 57.0	64.5	57.0	60.1	59.9	60.9	59.90	27.697	.702	29.858
	64	Nadir 11h. 55m.	- -	2	- -	269 59 57.8	63.2	55.6	58.5	60.0	62.5	59.60	29.053	.056	- -
	65	O. Arg. S. 22723	6.0	1	V.	150 49 58.4	63.0	57.5	58.4	60.1	63.9	60.22	32.483	.488	29.828

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ″ ′	″		
1	. .	. .	29.085	— 6.3	+ 1 44.3	149 41 39.3	— 20 48 0.1	— 100.3	Ha.	
2	. .	. .	. .	37.0	2 1.0	153 16 24.8	— 24 22 45.6	98.9		
3	37.0	29.6	. .	1 41.3	+ 47.6	127 59 6.4	+ 0 54 32.8			
4	36.5	29.1	. .	3 9.7	— 23.1	69 21 30.8	59 32 8.4	106.0		
5	. .	. .	. .	3 58.2	+ 40.5	123 26 43.3	5 26 55.9	98.2		
6	. .	. .	. .	24.7	41.5	124 5 18.9	+ 4 48 20.3	95.8		
7	36.5	28.8	. .	2 16.1	2 23.0	156 55 7.6	— 28 1 28.4	— 88.5		
8										
9	36.3	32.5	29.075	44.3	21.2	109 9 38.6	+ 19 44 0.6	+ 70.5	H.*	* Prof. Hall.
10	. .	. .	. .	6 2.3	21.1	109 4 20.5	+ 19 49 18.7	+ 71.4		
11										Mean of mic readings recorded 28r. 839. Wrong index supposed to have been read, and 0r. 250 added.
12	42.5	44.1	29.047	2 32.6	1 26.6	147 33 53.0	— 18 56 26.7		Ha.	
13	. .	. .	. .	8.7	1 28.5	148 6 18.8				
14	. .	36.7	. .	— 52.8	+ 18.5	286 54 23.4	+ 55 48 2.7	— 114.7		
15	41.5	36.7	. .	+ 52.4	— 18.5	73 5 35.6	55 48 3.6			
16	. .	. .	. .	+ 47.5	+ 1 11.6	319 41 57.1	88 35 36.3	107.8		At 1h. 4m. 30s., 5m. 18s., 6m. 45s., 7m. 43s., and 8m. 35s.
17	40.5	36.1	. .	— 45.1	— 1 11.6	40 18 4.2	+ 88 35 35.0			
18										
19	. .	. .	29.078	+ 2 25.2	+ 1 30.3	148 48 55.8	— 19 39 5.2		N.	
20	50.5	44.3	. .	4.0	1 28.2	148 16 33.0				
21	45.5	40.1	. .	+ 1 7.9	2 17.2	156 38 27.1	27 44 47.9	92.1		
22	44.7	39.4	. .	— 1 23.9	+ 2 10.3	155 30 47.9	— 26 37 8.7	— 93.4		Bar. and thermometer read at 23h. 7m.
23	. .	. .	. .	3 9.6	— 4 46.7	11 22 5.3	+ 62 28 26.1	+ 115.3		Good observation for so low a star.
24										
25	33.5	30.5	29.108	3 7.9	+ 1 34.5	149 8 28.5	— 20 31 4.6		Ha.	Poor observation; sun very unsteady.
26	. .	. .	. .	39.7	1 36.7	149 40 59.1				
27	38.0	32.3	. .	3 23.1	1 58.8	153 58 36.3	— 25 4 57.1			
28	29.5	24.8	. .	48.9	49.0	128 15 0.3	+ 0 38 38.9	— 101.1		
29	. .	. .	. .	53.9	+ 4.3	93 59 13.2	34 54 26.0	108.1		
30	. .	. .	. .	48.8	— 1 13.3	40 18 1.9	88 35 37.3	110.0		
31	. .	. .	. .	3 18.2	+ 26.4	112 57 9.4	+ 15 56 29.8	98.4		
32	29.5	23.5	. .	2 16.8	2 25.3	156 55 9.3	— 28 1 30.1	86.8		
33	. .	. .	. .	1 9.8	18.0	106 4 10.7	+ 22 49 28.5	92.7		
34	29.5	23.4	. .	40.2	28.1	114 14 49.7	14 38 49.5	87.0		
35	. .	. .	. .	39.1	44.3	125 20 6.7	3 33 32.5	72.7		
36	29.5	22.7	. .	3 16.4	24.7	111 32 10.1	+ 17 21 29.1	72.6		
37										
38	. .	. .	29.085	— 8.0	4 43.4	168 4 37.8	— 39 10 58.6	92.0	N.	
39	36.5	30.8	. .	+ 3 0.5	4 44.6	168 7 47.5	39 14 8.3	92.0		
40	. .	. .	. .	2 18.6	+ 3 22.2	163 15 43.4	— 34 22 4.2	94.0		
41	. .	. .	. .	35.2	— 1 7.7	42 19 30.4	+ 86 34 8.8	121.6		
42	. .	. .	. .	+ 49.9	+ 1 46.1	149 52 37.6	— 20 58 58.4	99.1		
43	36.0	29.5	. .	— 1 25.2	1 37.4	147 40 14.0	18 46 34.8	99.8		
44	. .	. .	. .	2 7.7	+ 1 37.4	147 39 31.5	— 18 45 52.3	99.8		
45	. .	. .	. .	— 2 5.5	— 28.1	245 32 28.3	+ 14 26 7.5	— 109.9		
46										
47	35.0	28.9	. .	+ 1 25.2	+ 48.2	128 2 13.2	0 51 26.0			
48	27.8	23.5	29.132	— 47.6	21.8	109 9 39.9	19 43 59.3	+ 70.9	H.*	" Prof. Hall.
49	. .	. .	. .	6 5.7	21.6	109 4 21.6	+ 19 49 17.6	+ 71.8		
50										Mean of mic. readings recorded 29r. 046.
51	69.0	43.5	29.098	1 37.8	1 56.5	153 55 17.2	— 25 1 38.0		Ha.	Bar. and at. ther. interpolated from Met. Reg.
52	. .	. .	. .	— 1 16.0	0.2	90 13 44.9	+ 38 39 54.3	— 32.4		
53	40.7	38.0	. .	+ 1 8.0	+ 50.7	129 51 59.6	— 0 58 20.4	95.2	N.	Very steady.
54	. .	. .	. .	2 26.9	— 11.4	259 27 16.5	+ 28 20 55.8	113.9	Ha.	
55	39.5	36.0	. .	+ 2 30.6	+ 11.4	100 32 42.2	+ 28 20 57.0			
56	. .	. .	. .	— 31.5	2 0.5	153 16 28.8	— 24 22 49.6	97.4		
57	. .	. .	. .	3 19.3	47.6	128 2 28.2	+ 0 51 11.0			
58	. .	. .	. .	— 50.9	+ 18.6	286 54 25.3	55 48 4.6	116.0		
59	. .	. .	. .	+ 53.0	— 18.6	73 5 34.4	55 48 4.8			
60	39.5	34.1	. .	— 47.8	— 1 12.0	40 18 0.8	+ 88 35 38.4	110.5		Barometer and thermometer read at 1h. 17m.
61										Nov. 26. Lengthened focus about .02 in. and took readings for inequality of screw. N.
62	. .	. .	29.073	— 1 42.6	+ 1 30.9	150 14 48.2	— 21 37 22.8		N.	
63	53.0	63.2	. .	+ 43.0	1 33.0	150 47 15.9				
64										Microscopes and instrument covered with moisture.
65	57.5	54.4	. .	— 1 47.0	+ 1 42.4	150 49 55.6	— 21 56 16.4	— 97.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Nov. 29	1	Anon. 23h. 20m. 26s.	5.8	1	V.	163 9 57.7	61.5	56.1	57.7	58.0	63.2	59.03	23.980	.981	. .
	2	B. A. C. 8213, (Ref.)	. .	4	. .	317 39 56.4	59.1	54.6	52.5	56.1	60.0	56.45	29.973	.980	. .
	3	B. A. C. 8314, (Ref.)	. .	2	IV, V.	304 44 57.6	61.9	56.2	55.3	59.1	62.5	58.77	27.856	.867	. .
	4	B. A. C. 8314 . .	. .	2	VI, VII.	55 14 57.7	61.7	58.3	60.5	61.7	66.0	60.98	30.352	.316	29.828
	5	Weisse XXIII, 1267	. .	5	I–IX.	128 54 58.0	62.9	55.2	56.4	59.4	63.8	59.28	26.484	.489	. .
	6	Anon. 0h. 9m. 56s. .	9.5	3	III–VII.	" " "	"	"	"	"	"	"	35.777	.777	. .
	7	Nadir 0h. 15m. . .	. .	4	. .	269 59 58.5	61.3	56.5	57.3	60.1	64.4	59.68	29.064	.066	. .
	8	Neptune	. .	5	I–IX.	127 59 57.8	62.0	55.3	56.1	58.4	62.0	58.60	24.117	.119	29.829
	9	Anon. 0h. 31m. 43s.	8.0	1	VI.	161 34 58.0	63.3	59.2	59.0	58.9	63.0	60.23	24.259	.261	. .
	10	20 Ceti	4.0	5	I–IX.	130 44 57.3	62.0	54.9	55.9	57.4	60.7	58.03	28.165	.170	. .
	11	O. Arg. S. 613 . .	7.0	1	V.	157 54 57.5	63.5	58.1	58.0	59.1	61.8	59.67	30.816	.816	. .
	12	Polaris, (Ref.) . .	. .	4	. .	319 39 56.6	60.8	55.8	54.5	56.6	61.0	57.55	27.298	.309	. .
	13	Polaris	. .	1	5.	40 19 57.0	62.9	58.9	62.0	59.5	66.6	61.15	30.801	.779	29.832
	14	Lacaille 492 . . .	6.2	4	III–VII.	162 59 57.1	63.2	57.5	59.2	58.5	62.6	59.68	37.413	.426	. .
	15	ε Cassiopeæ, (Ref.) .	. .	4	I–IV.	294 4 57.5	61.2	. .	55.8	. .	62.1	58.65	26.415	.482	. .
	16	ε Cassiopeæ . . .	. .	4	VI–IX.	64 54 55.9	61.8	57.6	58.6	60.4	65.0	59.88	31.726	.666	. .
	17	α Arietis	. .	4	I–IV.	106 4 58.0	56.1	58.8	60.5	62.1	65.8	61.88	31.220	.229	. .
	18	α Arietis, (Ref.) . .	. .	3	VII–IX.	253 54 57.7	63.0	60.3	61.7	60.4	66.8	61.65	27.063	.061	. .
	19	O. Arg. S. 1421 . .	7.8	1	V.	145 29 57.0	62.7	55.9	55.2	58.8	62.0	58.60	31.524	.529	29.828
	20	ι Cassiopeæ . . .	. .	4	I–IV.	62 4 56.6	63.2	57.9	58.0	60.3	65.1	60.18	26.407	.371	. .
	21	ι Cassiopeæ, (Ref.) .	. .	4	VI–IX.	297 54 57.3	63.5	57.3	54.6	59.4	61.5	58.93	31.737	.780	. .
	22	Mars S. L. . . .	. .	3	I–IX.	105 9 58.0	66.5	58.5	62.1	61.9	66.4	62.23	29.525	.515	29.830
	23	Mars N. L. . . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	30.087	.084	. .
	24	Fides	. .	1	V.	101 19 58.4	65.0	57.2	60.8	60.7	65.6	61.28	30.024	.025	. .
	25	Uranus	. .	5	I–IX.	105 14 58.5	66.5	59.7	62.0	62.9	67.0	62.77	28.944	.933	29.833
30	26	Neptune	. .	1	VI.	128 4 58.8	65.0	55.5	59.3	58.4	63.1	60.02	33.446	.445	30.102
	27	Polaris	. .	3	V.	40 19 55.9	63.9	58.1	62.0	58.8	64.8	60.58	30.759	.760	30.116
	28	Anon. 1h. 28m. 46s.	8.0	1	VI.	152 59 59.0	64.9	58.8	61.9	58.4	63.5	61.08	28.480	.480	. .
	29	ε Cassiopeæ, (Ref.) .	. .	4	I–IV.	294 4 60.0	65.2	59.3	60.1	60.0	64.1	61.45	26.501	.567	. .
	30	ε Cassiopeæ . . .	. .	4	VI–IX.	65 54 60.0	66.0	61.8	63.8	62.9	68.1	63.77	31.836	.775	. .
	31	α Arietis, (Ref.) . .	. .	4	I–IV.	253 54 59.3	65.1	61.6	63.0	60.6	66.1	62.62	27.029	.055	. .
	32	α Arietis	. .	4	VI–IX.	106 4 59.0	68.8	60.0	62.8	62.3	65.5	63.07	31.299	.281	30.136
	33	Lacaille 803 . .	6.5	1	V.	152 29 59.2	66.1	59.2	61.9	60.0	63.3	61.62	35.451	.457	30.156
	34	Anon. 2h. 47m. 44s.	8.0	1	V.	152 34 59.0	66.1	59.5	61.9	59.2	63.2	61.48	31.548	.552	. .
	35	O. Arg. S. 1910 . .	8.0	1	V.	" " "	"	"	"	"	"	"	23.550	.554	. .
	36	Anon. 2h. 58m. 52s.	7.5	1	V.	155 9 58.5	67.1	59.3	61.2	60.1	62.4	61.43	29.164	.168	. .
	37	Lacaille 996 . . .	7.0	1	V.	152 59 59.0	66.9	60.1	63.0	60.0	63.8	62.13	15.714	.715	. .
	38	Lacaille 1041 . .	7.0	1	V.	" " "	"	"	"	"	"	"	42.780	.780	. .
	39	Lacaille 1113 . .	7.0	1	V.	152 49 58.8	67.1	60.0	62.5	60.2	63.1	61.95	32.135	.139	30.156
	40	η Tauri	. .	1	V.	105 14 59.0	69.1	60.8	63.3	63.0	65.7	63.48	34.437	.443	. .
	41	Nadir 3h. 50m. . .	. .	3	. .	269 59 59.1	66.1	58.7	63.0	60.0	65.1	62.00	29.134	.137	. .
	42	Mars, centre . . .	. .	5	III–VII.	105 9 59.7	66.9	60.3	62.0	62.0	65.5	62.73	27.979	.977	. .
	43	Weisse N. IV, 1047 .	9.0	1	V.	101 19 59.0	65.8	58.5	61.0	60.2	64.0	61.42	36.050	.052	30.152
	44	Anon. 5h. 33m. 5s. .	9.0	1	V.	107 34 58.6	69.6	60.7	63.7	61.4	63.0	62.83	22.731	.732	. .
	45	Uranus	. .	1	V.	105 14 58.1	70.2	60.8	65.1	63.2	65.1	63.75	29.024	.026	30.154
Dec. 1	46	Sun S. L. . . .	. .	4	I–IV.	151 4 58.6	68.1	60.2	65.9	58.9	61.5	62.20	30.035	.053	. .
	47	Sun N. L. . . .	. .	4	VI–IX.	150 29 58.9	68.5	61.9	66.5	59.9	62.0	62.95	25.157	.164	30.242
3	48	O. Arg. S. 1535 . .	9.0:	1	V.	147 39 58.6	65.8	59.4	63.0	57.4	62.7	61.15	31.515	.520	29.777
	49	σ Ceti	4.0	1	V.	144 44 58.8	65.6	57.6	60.5	58.6	62.6	60.62	33.535	.539	. .
	50	Lacaille 803 . . .	6.2	1	V.	152 24 58.0	65.3	59.5	62.9	58.0	62.6	61.05	25.782	.782	. .
	51	Nadir 2h. 40m. . .	. .	4	. .	269 59 57.5	63.2	57.6	62.0	58.9	63.0	60.37	29.068	.071	. .
	52	Anon. 2h. 47m. 44s.	7.8	1	V.	152 34 58.2	65.5	60.0	62.8	57.9	62.5	61.15	31.454	.459	29.775
	53	α Ceti	. .	5	I–IX.	125 19 58.1	66.0	59.5	61.3	59.1	62.5	61.08	30.100	.101	. .
	54	Anon. 2h. 58m. 53s.	7.5	1	V.	155 9 57.6	65.8	59.0	62.0	58.7	61.3	60.73	29.036	.038	. .
	55	Lacaille 996 . . .	5.8	1	V.	153 4 57.8	62.9	58.8	62.0	57.3	61.6	60.07	25.180	.185	. .
	56	B. A. C. 1012 . .	5.5	5	I–IX.	155 29 57.8	64.5	59.4	62.0	58.6	60.5	60.47	33.300	.319	. .
	57	B. A. C. 1039 . .	4.5	1	V.	153 29 57.8	64.8	59.0	61.3	56.6	61.4	60.15	31.678	.680	. .
	58	Lacaille 1113 . .	6.7	1	V.	152 49 57.6	64.7	59.1	62.7	57.5	61.7	60.55	32.025	.027	29.781
	59	O. Arg. S. 2388 . .	9.0	5	I–IX.	" " "	"	"	"	"	"	"	29.383	.400	. .
	60	O. Arg. S. 2468 . .	8.8	1	IX.	152 34 58.1	65.5	60.2	63.1	58.0	62.2	61.18	33.522	.525	. .
	61	τ^6 Eridani	3.8	5	I–IX.	" " "	"	"	"	"	"	"	36.931	.942	. .
	62	ζ Ursæ Minoris, S. P.	. .	5	V½–IV½.	27 9 56.4	65.4	59.6	65.0	57.6	61.0	60.83	32.876	.879	29.772
	63	Anon. 4h. 4m. 1s. .	6.7	5	I–IX.	148 14 56.7	62.5	57.6	60.5	55.3	58.7	58.55	31.627	.638	. .
	64	O. Arg. S. 2939 . .	6.0:	1	IX.	151 19 56.9	64.0	58.5	62.1	56.9	59.8	59.70	26.665	.665	. .
	65	ζ Ursæ Minoris, S. P.	. .	3	VII–V.	24 59 55.5	64.3	59.0	64.6	55.8	59.9	59.85	29.711	.731	. .

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	29.073	+ 2 39.5	+ 3 7.9	163 15 46.4	— 34 22 7.2	— 93.5	N.	
2	- -	- -	- -	— 28.4	— 1 2.9	317 40 30.9	+ 86 34 10.2	122.4		Wires 1, 2, 4, and 23h. 29m. 59s.
3	- -	- -	- -	+ 37.8	+ 39.9	304 46 16.4	73 39 55.7	122.0		
4	57.0	54.2	- -	— 38.9	— 39.9	55 13 42.1	+ 73 39 57.1			
5	- -	- -	- -	+ 1 21.0	+ 46.4	128 57 6.6	— 0 3 27.4	105.4		
6	- -	- -	- -	— 3 30.0	46.3	128 52 15.5	+ 0 1 23.7	105.0		
7										
8	56.7	53.4	- -	+ 2 35.2	44.8	128 3 18.6	+ 0 50 20.6			
9	- -	- -	- -	2 30.8	2 51.4	161 40 22.4	— 32 46 43.2	93.3		
10	- -	- -	- -	+ 28.3	49.6	130 46 15.9	1 52 36.7	101.3		
11	- -	- -	- -	— 54.6	2 20.7	157 56 25.8	— 29 2 46.6	91.6		
12	- -	- -	- -	+ 55.3	+ 1 7.7	319 42 0.5	+ 88 35 39.8	111.6		1h. 8m. 19s., and wires 1–V.
13	56.5	53.3	- -	— 53.4	— 1 7.7	40 18 0.0	+ 88 35 39.2			
14	- -	- -	- -	— 4 21.7	+ 3 5.2	162 58 43.1	— 34 5 3.9	84.8		Wire VI omitted.
15	- -	- -	- -	+ 1 21.2	+ 25.8	294 6 45.6	+ 63 0 24.9	102.3		Very steady.
16	- -	- -	- -	— 1 21.2	— 25.7	65 53 12.9	63 0 26.3			
17	- -	- -	- -	— 1 7.6	+ 16.6	106 4 10.9	22 49 28.3	92.8		
18	- -	- -	- -	+ 1 3.0	— 16.6	253 55 48.0	+ 22 49 27.3			
19	56.0	53.2	- -	— 1 17.0	+ 1 23.5	145 30 5.1	— 16 36 25.9	81.8		
20	- -	- -	- -	+ 1 24.7	— 30.5	62 5 54.3	+ 66 47 44.9	92.0		
21	- -	- -	- -	— 1 24.8	+ 30.5	297 54 4.6	66 47 43.9			Nov. 29. Very fine night, but the wires of microscopes E and F are bent by damp.
22	55.5	54.6	- -	13.8	11.4	105 9 59.7	23 43 48.4			Whole revolutions recorded, S. L., 30; N. L., 31.
23	- -	- -	- -	31.7	11.4	105 9 41.9				
24	- -	54.2	- -	— 29.8	11.5	101 19 42.9	27 33 56.3			
25	56.0	53.3	- -	+ 4.4	15.6	105 15 22.7	23 38 16.5			
26	59.0	56.0	- -	— 2 17.0	+ 45.0	128 3 28.0	0 50 11.2		Ha.	Very faint.
27	58.0	55.4	- -	— 52.8	— 1 8.1	40 17 59.6	+ 88 35 39.6	111.8		
28	- -	- -	- -	+ 18.6	+ 1 53.3	153 2 12.9	— 24 8 33.7	88.4		
29	- -	- -	- -	+ 1 18.5	+ 26.0	294 6 45.9	+ 63 0 25.2	102.6		
30	- -	- -	- -	— 1 24.7	— 26.0	65 53 13.0	63 0 26.2			
31	- -	- -	- -	+ 1 3.2	— 16.8	253 55 49.0	22 49 28.3	92.8		
32	57.5	53.2	- -	— 1 9.2	+ 16.8	106 4 10.6	+ 22 49 28.6			
33	57.0	52.0	- -	3 20.0	1 51.3	152 28 32.8	— 23 34 53.6	74.4		
34	- -	- -	- -	— 1 17.7	1 52.0	152 35 35.7	23 41 56.5	69.8		
35	- -	- -	- -	+ 2 52.9	1 52.2	152 39 46.5	23 46 7.3	69.2		
36	- -	- -	- -	— 3.0	2 5.6	155 12 4.0	26 18 24.8	66.0		
37	- -	- -	- -	+ 6 57.6	1 54.8	153 8 54.5	24 15 15.3	64.6		
38	- -	- -	- -	— 7 9.5	1 53.7	152 54 46.3	24 1 7.1	62.4		
39	56.0	50.1	- -	1 36.1	1 53.5	152 50 19.3	— 23 56 40.1	58.5		
40	- -	- -	- -	— 2 48.2	15.9	105 12 31.1	+ 23 41 8.1	57.5		
41										
42	- -	- -	- -	+ 34.3	11.9	105 10 48.9	23 42 50.3			
43	55.0	45.6	- -	— 3 38.7	11.8	101 16 34.5	27 37 4.7	26.9		
44	- -	- -	- -	+ 3 18.7	18.8	107 38 40.3	21 14 58.9	5.6		
45	52.5	44.8	- -	+ 1.5	16.0	105 15 21.2	+ 23 38 18.0			
46	- -	- -	- -	— 30.7	1 37.1	151 6 8.6	— 21 56 15.3		N.	
47	53.2	55.7	- -	+ 2 2.5	1 35.0	150 33 40.4				
48	54.7	53.0	29.059	— 1 17.1	1 30.5	147 40 14.5	18 46 35.3	78.5		
49	- -	- -	- -	— 2 20.5	1 21.1	144 44 1.2	15 50 22.0	77.1		
50	- -	- -	- -	+ 1 42.6	1 49.8	152 28 33.4	23 34 54.2	73.8		
51										
52	54.5	51.8	- -	— 1 15.2	1 50.5	152 35 36.4	— 23 41 57.2	69.2		
53	- -	- -	- -	— 32.6	40.8	125 20 9.2	+ 3 33 30.0	71.9		Very good.
54	- -	- -	- -	+ 0.7	2 3.5	155 12 4.9	— 26 18 25.7	65.4		
55	- -	- -	- -	+ 2 1.4	1 53.3	153 8 54.7	24 15 15.5	64.0		
56	- -	- -	- -	— 2 13.5	2 5.7	155 29 52.6	26 36 13.4	62.2		
57	- -	- -	- -	1 22.1	1 55.1	153 30 33.1	24 36 53.9	61.0		
58	54.0	50.7	- -	1 33.0	1 52.0	152 50 19.5	23 56 40.3	57.8		
59	- -	- -	- -	10.9	1 52.1	152 51 41.7	23 58 2.5	55.6		
60	- -	- -	- -	2 19.9	1 50.7	152 34 31.9	23 40 52.7	53.5		
61	- -	- -	- -	4 7.0	+ 1 50.6	152 32 44.7	— 23 39 5.5	— 51.9		
62	53.5	50.4	- -	1 59.7	— 1 52.3	27 6 8.8	+ 78 12 29.6	+ 54.1		
63	- -	- -	- -	— 1 20.8	+ 1 33.1	148 15 10.8	— 19 21 31.6	— 43.9		
64	- -	- -	- -	+ 1 15.0	+ 1 45.5	151 23 0.2	— 22 29 21.0	— 41.3		
65	- -	- -	- -	— 21.1	— 2 3.5	24 57 35.2	+ 76 3 56.0	+ 38.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Dec. 3	1	Mars, N. L.		3	I–IX.	105 14 56.0	65.4	58.2	63.0	58.9	62.5	60.67	30.729	.716	29.732
	2	Mars, S. L.		2	III, VII.	" " "	"	"	"	"	"	"	30.131	.129	- -
	3	O. Arg. S. 3325	8.7	1	V.	152 59 57.4	64.4	58.9	63.0	56.9	61.0	60.27	32.955	.956	- -
	4	Fides	9.3	1	V.	101 19 57.3	65.3	57.5	62.5	57.7	62.4	60.45	24.265	.271	- -
	5	11 Orionis		4	I–IV.	113 39 57.3	65.9	58.8	62.3	58.0	61.8	60.68	28.151	.162	- -
	6	11 Orionis, (Ref.)		4	VI–IX.	246 19 56.5	63.9	59.1	63.6	59.5	63.6	61.03	30.070	.067	29.778
5	7	Sun S. L.		4	I–IV.	151 39 57.0	70.8	62.0	71.0	58.4	59.1	63.05	34.777	.795	30.024
	8	Sun N. L.		4	VI–IX.	151 4 58.0	71.9	59.0	71.4	63.1	59.8	63.87	29.913	.915	- -
	9	Nadir 3h. 18m.		3	- -	269 59 58.1	69.1	60.9	66.9	61.0	62.3	63.05	29.186	.191	- -
6	10	Venus		5	III–VII.	152 44 59.2	69.0	61.6	66.0	62.0	63.3	63.52	33.988	.992	29.857
	11	O. Arg. S. 22687		1	V.	152 44 56.5	65.0	58.2	62.3	57.9	60.9	60.13	26.958	.959	29.878
	12	Anon. 23h. 13m. 29s.		1	V.	163 29 56.6	65.3	59.2	61.5	59.3	60.5	60.40	31.435	.641	- -
	13	Anon. 23h. 20m. 26s.	7.5	1	V.	163 14 57.0	66.3	59.5	63.4	59.6	61.6	61.23	33.802	.802	- -
	14	B. A. C. 8213		4	- -	42 19 57.4	67.0	61.1	66.0	63.0	64.5	63.17	28.145	.148	- -
	15	Moon S. L.		5	I–IX.	128 49 57.8	66.9	58.4	62.3	60.0	61.9	61.22	33.471	.475	29.885
	16	O. Arg. S. 23082		1	VI.	147 54 56.0	63.2	57.1	59.5	56.5	58.1	58.40	29.808	.803	- -
	17	γ Pegasi		5	I–IX.	114 29 56.2	66.2	59.0	62.8	60.1	62.2	61.12	34.764	.757	- -
	18	Anon. 0h. 11m. 9s.		1	V.	128 59 55.9	64.8	55.8	60.0	58.0	60.5	59.17	27.534	.538	29.889
	19	Neptune		5	I–IX.	128 4 56.7	65.3	56.5	60.6	59.0	60.1	59.70	31.981	.982	- -
	20	B. A. C. 563		5	I–IX.	167 54 57.0	66.9	61.0	66.0	60.6	60.6	62.02	30.283	.309	29.884
	21	50 Cassiopeæ, (Ref.)		2	VI, VII.	302 54 55.8	64.6	59.9	61.0	58.1	59.4	59.80	34.995	.001	- -
	22	α Draconis, S. P.		5	VII–III.	13 59 54.5	64.6	57.9	62.5	57.0	58.1	59.10	31.594	.613	- -
	23	Nadir 2h. 12m.		4	- -	269 59 56.8	65.6	58.9	63.7	60.1	62.2	61.22	29.125	.128	- -
	24	B. A. C. 765	5.3	1	VI.	163 14 57.2	67.5	60.5	65.4	61.0	61.5	62.18	28.112	.111	29.884
	25	5 Ursæ Minoris, S. P.		1	V.	25 14 56.2	65.9	60.2	65.7	59.8	59.0	61.13	32.298	.304	- -
	26	γ Ceti		5	I–IX.	126 14 56.1	65.6	56.7	61.9	58.0	59.6	59.65	32.918	.917	- -
	27	Anon. 2h. 42m. 58s.	8.0	1	V.	163 9 56.1	65.4	59.0	63.9	58.5	60.5	60.57	26.689	.690	- -
	28	α Ceti		3	III–VII.	125 19 56.0	66.3	58.7	62.4	58.8	60.5	60.45	30.140	.143	29.887
	29	B. A. C. 4982, S. P.		3	5–1.	31 59 55.4	66.6	59.9	65.4	59.4	60.6	61.22	31.166	.171	- -
	30	11 Ursæ Minoris, S. P.		5	VII–III.	21 14 55.3	66.3	59.5	66.1	60.8	60.0	61.33	29.260	.290	- -
	31	γ^2 Ursæ Minoris, S. P.		5	VII–III.	" " "	"	"	"	"	"	"	29.185	.214	29.884
	32	Mars, centre		5	I–IX.	105 19 55.0	66.9	59.1	65.2	59.6	61.4	61.20	31.610	.602	29.883
8	33	Moon S. L.		5	I–IX.	119 19 59.3	70.1	61.0	67.6	58.0	58.5	62.42	31.176	.175	30.305
	34	Nadir 1h. 40m.		4	- -	269 59 57.6	69.8	61.3	70.4	58.2	60.6	62.98	29 172	.176	- -
12	35	Sun N. L.		4	I–IV.	151 44 57.8	74.2	64.2	73.6	60.5	58.8	64.85	30.142	.164	30.070
	36	Sun S. L.		4	VI–IX.	152 19 58.2	75.0	65.0	74.8	62.0	60.0	65.83	34.727	.730	- -
	37	α Lyræ		1	V.	90 14 55.1	72.0	60.5	69.5	59.3	58.9	62.55	31.392	.398	- -
	38	Mercury, centre		1	V.	154 19 55.1	70.0	61.1	68.9	57.3	57.0	61.57	29.398	.404	30.094
	39	Venus, centre		1	V.	151 29 55.2	67.8	59.8	67.8	56.5	57.1	60.70	33.602	.605	30.138
	40	ζ^1 Piscium		1	IV.	122 4 55.0	68.2	59.7	67.8	56.4	55.5	60.43	36.229	.241	- -
	41	ζ^2 Piscium		1	VI.	" " "	"	"	"	"	"	"	36.616	.611	- -
	42	Polaris		3	2–4.	40 19 55.0	70.0	61.6	72.4	57.9	60.0	62.82	30.713	.713	30.284
	43	Nadir 2h. 35m.		4	- -	269 59 55.3	68.4	59.5	69.3	57.0	56.8	61.05	29.105	.108	- -
	44	Mars, centre		1	V.	105 29 55.0	72.0	62.3	70.8	59.8	58.2	63.02	31.480	.485	30.338
	45	α Tauri		1	V.	112 39 55.0	69.5	59.1	68.7	57.0	56.5	60.97	30.754	.754	- -
	46	Moon S. L.		5	III–VII.	109 49 55.5	70.0	60.8	69.4	57.5	56.0	61.53	34.558	.559	30.324
	47	Uranus		1	V.	105 14 54.9	71.1	61.2	71.0	59.0	57.8	62.50	28.370	.376	30.326
14	48	Polaris		3	5.	40 19 53.7	66.0	57.0	63.0	59.8	62.8	60.38	30.859	.850	30.014
	49	Anon. 2h. 47m. 46s.	8.0	1	VIII.	152 29 54.9	65.0	56.5	61.1	58.9	60.1	59.42	21.959	.956	30.042
	50	τ^3 Eridani	6.0	1	VIII.	152 59 54.8	64.1	56.7	60.2	57.9	59.0	58.78	26.879	.875	- -
	51	O. Arg. S. 2173	9.0	1	V.	147 54 56.0	65.0	56.7	61.0	58.6	55.8	58.85	47.439	.445	- -
	52	O. Arg. S. 2189	6.0	1	V.	" " "	"	"	"	"	"	"	28.575	.578	- -
	53	τ^4 Eridani	5.0	1	V.	151 4 55.6	65.5	57.2	61.4	59.5	59.9	59.85	25.242	.247	- -
	54	Lacaille 1124	7.0	1	VI.	154 59 56.4	66.8	57.0	61.0	60.3	60.8	60.38	36.610	.608	- -
	55	Anon. 3h. 26m. 45s.	8.5	1	VII.	" " "	"	"	"	"	"	"	31.670	.667	- -
	56	Anon. 3h. 32m. 3s.	9.0	1	VII.	151 19 57.0	67.0	58.9	63.2	60.8	60.1	61.17	20.646	.642	30.066
	57	O. Arg. S. 2488	9.0	1	V.	" " "	"	"	"	"	"	"	40.820	.820	- -
	58	τ^6 Eridani	6.0	1	V.	152 34 56.8	66.9	58.9	62.5	60.0	61.7	61.13	37.040	.042	- -
	59	O. Arg. S. 2663	8.0	1	V.	155 29 55.1	65.1	57.2	61.0	59.7	59.1	59.53	32.514	.519	- -
	60	Anon. 3h. 54m. 55s.	9.0	1	V.	156 4 55.7	66.1	56.6	61.3	59.4	59.4	59.75	29.740	.741	- -
	61	Mars, centre		5	III–VII.	105 34 55.9	68.8	59.0	64.1	62.9	63.4	62.35	34.434	.437	30.078
	62	Nadir 4h. 18m.		4	- -	269 59 57.0	66.2	57.2	63.1	60.7	62.7	61.15	29.141	.107	- -
20	63	Nadir 0h. 20m.		4	- -	269 59 57.1	68.3	60.4	67.8	59.8	59.5	62.15	29.188	.192	- -
	64	Anon. 0h. 49m. 32s.		1	V.	155 54 57.1	68.8	61.0	67.5	58.9	57.2	61.75	26.729	.730	30.022

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	53.0	49.6	29.059	— 51.9	+ 11.6	105 14 20.3	+ 23 39 9.7		N.	Barometer reduced for 29.782.
2	. .	. .	. .	33.5	11.6	105 14 38.7				
3	. .	. .	. .	— 2 2.1	1 53.1	152 59 51.2	— 24 6 12.0	— 30.6		Whole number of degrees recorded 151.
4	. .	. .	. .	+ 2 30.0	11.7	101 22 42.1	+ 27 30 57.1			
5	. .	. .	. .	+ 28.1	+ 25.5	113 40 54.2	15 12 45.0	22.8		
6	52.5	47.3	. .	— 31.6	— 25.5	246 19 3.9	+ 15 12 43.2			
7	41.0	43.4	29.090	2 58.8	+ 1 41.4	151 38 45.6	— 22 28 52.1		Ha.	
8	. .	. .	. .	25.8	1 39.0	151 6 17.0				
9										
10	48.0	52.9	. .	— 2 33.6	1 45.2	152 44 15.1	23 50 35.9		N.	
11	49.0	46.7	. .	+ 1 6.8	1 53.1	152 48 0.0	23 54 20.8	95.6		
12	. .	. .	. .	— 1 19.9	3 14.6	163 31 55.1	34 38 15.9	92.5		
13	. .	. .	. .	— 2 27.6	+ 3 11.6	163 15 45.2	— 34 22 6.0	93.0		
14	. .	. .	. .	+ 29.5	— 1 4.2	42 19 28.4	+ 86 34 10.8	123.3		Readings at 23h. 27m. 0s., 27m. 35s., 28m. 5s., and wire V.
15	48.5	45.4	. .	— 2 17.4	— 52 18.1	127 55 25.7	+ 0 58 13.5			
16	. .	. .	. .	22.3	+ 1 33.3	147 56 9.4	— 19 2 30.2	98.7		
17	. .	. .	. .	— 2 57.6	26.7	114 27 30.2	+ 14 26 9.0	109.6		
18	47.5	44.2	. .	+ 48.6	47.6	129 1 35.3	— 0 7 56.1	104.5		
19	. .	. .	. .	— 1 30.6	45.8	128 4 14.9	+ 0 49 24.3			
20	45.0	42.0	. .	38.2	4 28.9	167 58 52.7	— 39 5 13.5	80.8		
21	. .	. .	. .	3 5.2	+ 38.1	302 52 32.7	+ 71 46 12.0	— 102.4		Very steady.
22	. .	. .	. .	— 1 19.1	— 3 53.2	13 54 46.8	+ 65 1 7.6	+ 97.5		
23			. .							
24	44.5	40.4	. .	+ 30.7	+ 3 14.4	163 18 47.2	— 34 25 8.0	— 73.4		
25	. .	. .	. .	— 1 40.7	— 2 5.1	25 11 15.3	+ 76 17 36.1	+ 89.7		
26	. .	. .	. .	— 1 59.9	+ 43.4	126 13 43.1	+ 2 39 56.1	— 77.6		
27	. .	. .	. .	+ 1 15.2	3 13.7	163 14 29.4	— 34 20 50.2	67.9		
28	44.0	39.2	. .	— 33.0	+ 42.0	125 20 9.4	+ 3 33 29.8	— 71.7		
29	. .	. .	. .	1 5.2	— 1 34.7	31 57 21.3	83 3 42.1	+ 77.7		
30	. .	. .	. .	6.3	2 31.6	21 12 23.4	72 18 44.2	69.4		
31	43.5	38.9	. .	3.9	— 2 31.6	21 12 25.8	72 18 46.6	+ 67.8		Circumpolar stars quite steady his evening.
32	43.0	39.0	. .	1 18.7	+ 12.2	105 18 54.7	23 34 44.5			
33	37.5	31.5	. .	1 5.3	— 44 15.1	118 34 42.0	+ 10 18 57.2			
34										Image very unsteady
35	25.5	23.6	29.074	34.2	+ 1 46.8	151 46 17.4	— 23 8 58.5		Ha.	
36	. .	. .	. .	2 57.2	1 49.4	152 18 58.0				
37	. .	. .	. .	1 12.8	0.2	90 13 49.9	+ 38 39 49.3	— 28.1		
38	30.0	24.1	. .	10.3	2 1.4	154 21 52.6	— 25 28 13.4			
39	33.5	23.1	. .	2 22.0	1 50.2	151 29 28.9	— 22 35 49.7			
40	. .	19.0	. .	3 44.6	39.3	122 1 55.1	+ 6 51 44.1	100.1		
41	. .	. .	. .	3 56.2	+ 39.2	122 1 43.4	6 51 55.8	100.1		
42	25.5	18.8	. .	51.4	— 1 13.9	40 17 57.5	88 35 41.7	114.6		
43										
44	24.0	15.8	. .	1 15.5	+ 13.6	105 29 1.1	23 24 38.1			
45	. .	. .	. .	52.6	+ 26.4	112 39 34.7	16 14 4.5	35.6		
46	22.0	17.1	. .	— 2 51.9	— 44 31.6	109 2 38.0	19 51 1.2			
47	22.0	16.9	. .	+ 21.9	+ 17.2	105 15 41.6	23 37 57.6			
48	42.0	42.1	29.107	— 54.6	— 1 9.7	40 17 56.0	+ 88 35 43.2	115.1		
49	41.0	39.4	. .	+ 3 44.1	+ 1 54.4	152 35 37.9	— 23 41 58.7	67.0		
50	. .	. .	. .	+ 1 9.9	1 56.7	153 3 5.3	24 9 26.1	64.2		
51	. .	. .	. .	— 9 34.6	1 34.5	147 46 58.7	18 53 19.5	60.5		
52	. .	. .	. .	+ 16.6	1 35.1	147 56 50.5	19 3 11.3	60.1		Double.
53	. .	. .	. .	+ 2 0.9	1 47.9	151 8 48.6	22 15 9.4	59.1		
54	. .	. .	. .	— 3 55.0	2 7.2	154 58 12.5	26 4 33.3	54.1		
55	. .	. .	. .	— 1 20.2	2 7.5	155 0 47.6	26 7 8.4	53.9		
56	40.5	38.1	. .	+ 4 25.2	1 49.4	151 26 15.7	22 32 36.5	52.7		
57	. .	. .	. .	— 6 7.0	1 48.7	151 15 42.8	22 22 3.6	50.6		
58	. .	. .	. .	4 8.6	1 54.7	152 32 47.2	23 39 8.0	49.3		
59	. .	. .	. .	1 46.9	2 10.7	155 30 23.3	26 36 44.1	45.6		
60	. .	. .	. .	19.9	2 14.5	156 6 54.3	— 27 13 15.1	43.7		
61	40.0	36.1	. .	— 2 47.0	12.8	105 32 28.1	+ 23 21 11.1			
62										
63									N.	Image unsteady.
64	32.5	28.6	29.131	+ 1 15.2	+ 2 15.7	155 58 32.6	— 27 4 53.4	— 90.7		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Dec. 20	1	Polaris, (Ref.)		5		319 39 56.1	67.1	60.3	63.0	57.8	57.1	60.23	27.381	.437	30.003
	2	50 Cassiopeæ, (Ref.)		5	III–VII.	302 49 56.6	67.4	61.6	65.1	58.5	57.4	61.10	25.485	.513	
	3	*α* Draconis, S. P.		4	IV–I.	13 59 55.8	69.3	61.0	68.2	57.8	57.0	61.52	31.594	.663	29.990
	4	O. Arg. S. 1535	8.5	1	V.	147 39 57.5	68.1	61.6	68.0	58.0	58.3	61.92	31.740	.741	
	5	B. A. C. 765	4.0	1	V.	163 14 57.5	68.6	61.6	68.0	58.9	58.9	62.25	28.191	.196	
	6	5 Ursæ Minoris, S. P.		3	IV–III.	25 14 56.1	68.6	61.0	69.2	56.9	56.8	61.43	32.327	.381	
	7	Anon. 2h. 42m. 59s.		1	V.	163 9 56.9	68.3	61.2	69.1	58.9	59.0	62.23	26.900	.900	29.991
	8	*α* Ceti		5	I–IX.	125 19 58.5	70.5	62.6	69.4	60.0	60.0	63.50	30.291	.296	
	9	B. A. C. 1049		1	V.	152 59 57.5	67.8	61.9	68.9	57.9	58.9	62.15	30.961	.962	29.988
	10	*η* Tauri, (Ref.)		5	III–VIII.	254 49 57.3	68.1	62.7	70.6	59.6	61.3	63.27	33.608	.615	
	11	Nadir 3h. 55m.		4		269 59 56.8	68.6	60.6	68.7	59.0	58.8	62.08	29.202	.207	
	12	Mars S. L.		3	I–IX.	105 39 56.8	71.2	62.4	70.0	61.6	60.5	63.75	25.366	.358	
	13	Mars N. L.		2	III, VII.	" " "	"	"	"	"	"	"	25.840	.828	29.993
	14	Mercury		5	I–IX.	152 4 56.3	69.8	61.1	68.8	58.4	59.2	62.27	27.620	.634	29.782
22	15	Venus, centre		1	V.	148 34 55.4	69.0	61.0	68.0	57.1	55.9	61.07	33.318	.324	29.880
	16	Weisse O, 583	8.0	1	VI.	125 59 55.0	68.4	59.1	66.0	56.1	54.5	59.85	26.535	.532	30.031
	17	Weisse O, 775		1	IX.	125 34 54.6	68.9	59.9	67.1	56.2	55.0	60.28	32.406	.387	
	18	Weisse O, 928		1	VII.	124 44 54.7	68.2	60.3	67.5	56.1	56.0	60.47	26.260	.253	
	19	Polaris		3	1.	40 19 54.2	67.8	60.6	70.7	54.5	58.0	60.97	30.846	.846	30.050
	20	O.Arg.S., 1h.12m.10s.		1	VII.	158 19 54.4	68.3	60.9	68.9	55.5	55.2	60.53	33.215	.216	
	21	A Cassiopeæ		3	III–V.	59 19 54.6	68.4	61.9	69.6	58.9	60.1	62.25	29.511	.511	
	22	Anon. 1h. 28m. 47s.		1	V.	152 59 54.3	68.4	61.5	69.0	56.2	56.0	60.90	28.695	.696	
	23	B. A. C. 563		1	V.	167 54 55.2	68.3	61.3	70.4	56.8	55.2	61.20	30.749	.750	
	24	*ξ* Piscium		5	I–IX.	126 19 54.8	67.4	58.8	67.1	55.5	54.9	59.75	25.897	.896	
	25	Weisse I, 880		1	VII.	119 39 54.8	66.7	58.2	67.0	55.0	54.1	59.30	30.286	.278	30.067
	26	*α* Draconis, S. P.		5	VII–III.	13 59 53.3	67.4	59.5	67.0	53.4	53.9	59.08	31.353	.375	
	27	Weisse II, 61		1	VI.	117 39 55.0	68.0	58.7	67.3	55.5	55.5	60.00	29.940	.932	
	28	Nadir		2		269 59 55.4	67.9	59.9	69.5	56.2	57.5	61.07	29.166	.170	
	29	*σ* Ceti	4.2	3	VII–IX.	144 39 54.4	68.6	59.9	66.5	57.1	55.9	60.40	24.177	.173	30.076
	30	Weisse II, 805		1	V.	107 14 54.8	69.3	61.6	68.4	56.5	56.5	61.18	32.236	.241	
	31	Anon. 2h. 43m. 0s.		1	V.	163 9 55.0	68.9	60.9	69.6	57.0	56.1	61.25	26.989	.990	
	32	O. Arg. S. 1887		1	V.	152 19 55.3	69.3	61.7	69.9	57.8	56.8	61.80	25.525	.529	
	33	Lacaille 951		5	III–VII.	163 34 54.0	67.4	60.4	68.1	56.9	55.6	60.40	30.918	.923	
	34	B. A. C. 4982, S. P.		2	1.	31 59 53.0	66.6	59.0	68.6	54.8	54.6	59.43	31.105	.110	30.090
	35	B. A. C. 1012	6.0	1	V.	155 24 54.0	67.5	61.0	68.4	56.0	54.5	60.23	24.033	.035	
	36	τ^4 Eridani	3.3	3	IV–VI.	151 4 53.9	67.5	60.7	68.0	55.8	54.5	60.07	25.398	.406	
	37	*γ* Ursæ Minoris, S. P.		4	IV–I.	21 14 54.4	66.2	59.0	69.6	55.3	55.0	59.92	28.980	.071	
	38	O. Arg. S. 2468	8.2	1	V.	152 29 54.9	68.4	61.7	70.0	56.2	56.3	61.25	24.211	.216	
	39	τ^7 Eridani	5.0	5	III–VII.	153 9 54.9	67.5	61.5	68.9	55.5	55.8	60.68	30.253	.262	30.104
	40	Mars S. L.		3	I–IX.	105 44 55.1	70.8	62.0	70.1	59.0	58.5	62.58	29.637	.625	
	41	Mars N. L.		2	III, VII.	" " "	"	"	"	"	"	"	30.172	.164	
	42	Anon. 4h. 7m. 21s.		1	V.	152 24 54.3	66.8	60.7	68.6	55.3	54.0	59.95	38.210	.215	
	43	O. Arg. S. 2938		1	V.	" " "	"	"	"	"	"	"	26.341	.347	
	44	O. Arg. S. 3082	7.5	1	V.	152 19 54.6	67.7	60.9	68.8	56.4	55.8	60.70	32.342	.348	
	45	O. Arg. S. 3108	8.7	1	V.	" " "	"	"	"	"	"	"	36.743	.744	
	46	Anon. 4h. 30m. 55s.	9.0	1	V.	155 39 53.5	65.7	59.1	66.9	54.4	53.1	58.78	25.525	.529	30.148
	47	O. Arg. S. 3325	8.8	1	V.	152 54 53.6	65.0	59.4	67.0	53.2	54.1	58.72	23.568	.572	
	48	Anon. 4h. 44m. 57s.	9.0	1	V.	152 24 55.6	67.7	62.0	69.6	56.9	56.6	61.40	32.601	.604	
	49	Fortuna	9.2	3	I–IX.	108 9 55.9	70.1	61.5	68.6	56.3	57.4	61.63	30.145	.131	30.170
	50	B. A. C. 1706		2	V, 5.	53 59 55.5	70.0	61.8	72.0	56.9	58.0	62.37	33.703	.703	
	51	Nadir 5h. 40m.		4		269 59 55.0	68.0	60.0	69.3	56.7	54.9	60.65	29.141	.144	
	52	Uranus		4	I–VII.	105 14 55.3	71.0	61.5	71.2	58.7	57.6	62.55	27.686	.684	30.164
	53	Euterpe		2	I, IX.	105 49 55.5	71.7	62.2	71.2	60.1	57.6	63.05	28.438	.423	
	54	44 Geminorum		1	V.	105 59 54.0	70.9	60.6	70.0	58.0	55.5	61.50	22.869	.869	30.171
23	55	Sun N. L.		4	I–IV.	152 4 54.1	69.1	59.0	68.0	58.0	56.1	60.72	35.494	.523	30.276
	56	Sun S. L.		4	VI–IX.	152 34 54.5	69.0	58.3	68.0	56.7	55.6	60.35	30.564	.564	
	57	Mercury, centre		1	V.	151 44 54.8	68.7	58.9	67.1	58.5	55.8	60.63	25.942	.942	30.238
	58	O. Arg. S. 1259	7.0	1	V.	153 24 55.0	68.0	59.0	65.9	57.0	55.8	60.12	31.172	.176	
	59	*α* Arietis		1	V.	106 4 55.0	70.5	60.1	68.9	60.9	59.0	62.40	31.355	.361	30.140
	60	O. Arg. S. 1930	7.5	1	V.	145 14 55.3	68.0	58.0	65.1	58.5	56.8	60.28	28.178	.182	30.114
	61	τ^3 Eridani	6.0	1	VIII.	152 59 55.3	67.2	59.2	66.9	57.1	56.2	60.32	27.030	.028	
	62	Anon. 3h. 18m. 15s.	9.0	1	V.	147 49 55.9	66.8	59.2	66.0	57.0	56.0	60.15	30.432	.438	30.104
	63	O. Arg. S. 2504	7.0	1	V.	152 34 55.6	67.9	60.3	67.7	57.5	57.8	61.13	19.362	.368	
	64	τ^6 Eridani	6.5	1	V.	" " "	"	"	"	"	"	"	37.130	.134	
	65	Anon. 3h. 44m. 13s.	7.0	1	V.	147 59 55.8	67.2	59.3	65.8	57.2	56.1	60.23	26.121	.124	
	66	Anon. 3h. 51m. 1s.	8.0	1	V.	147 49 55.0	65.9	58.7	65.0	56.1	54.6	59.22	31.131	.135	

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	32.3	28.0	29.131	+ 53.1	+ 1 12.2	319 42 5.5	+ 88 35 44.8	— 116.2	N.	At 1h. 11m. 50s., 15m. 55s., 16m. 35s., 17m. 16s., and 17m. 47s.
2	. .	. .	. .	+ 1 53.4	+ 39.4	302 52 33.9	+ 71 46 13.2	— 105.1		
3	31.5	27.4	. .	— 1 19.4	— 4 1.0	13 54 41.0	65 1 1.8	+ 101.8		
4	. .	. .	. .	— 1 21.8	+ 1 36.1	147 40 16.2	— 18 46 37.0	— 75.8		
5	. .	. .	. .	+ 29.3	+ 3 20.6	163 18 52.1	— 34 25 12.9	— 70.6		
6	. .	. .	. .	— 1 41.9	— 2 9.0	25 11 10.5	+ 76 17 31.3	+ 94.0		
7	. .	27.4	. .	+ 1 9.9	+ 3 19.7	163 14 31.8	— 34 20 52.6	— 64.9		
8	. .	. .	. .	— 36.5	43.3	125 20 10.3	+ 3 33 28.9	70.4		
9	31.0	27.1	. .	57.4	+ 1 59.3	153 1 4.0	— 34 7 24.8	56.9		
10	. .	. .	. .	— 2 20.5	— 16.6	254 47 26.1	+ 23 41 5.4	58.0		Wire VII omitted.
11										
12	. .	. .	. .	+ 1 58.2	+ 13.4	105 42 15.3	+ 23 11 31.2			
13	31.0	27.0	. .	1 43.5	13.4	105 42 0.6				
14	27.7	25.1	. .	+ 46.9	1 47.0	152 7 36.1	— 23 13 56.9			Unsteady and blurred.
15	26.5	24.6	. .	— 2 11.4	1 33.5	148 34 23.1	— 19 40 43.9		Ha.	
16	24.5	21.8	. .	+ 1 21.4	45.0	126 2 6.2	+ 2 51 33.0	102.4	N.	
17	. .	. .	. .	— 1 42.0	44.2	125 34 2.4	3 19 36.8	101.4		
18	. .	. .	. .	+ 1 30.2	+ 43.0	124 47 13.6	4 6 25.6	100.5		
19	25.0	21.5	. .	— 53.7	— 1 12.9	40 17 54.3	+ 88 35 44.9	116.4		
20	. .	. .	. .	2 8.0	+ 2 34.7	158 20 27.2	— 29 26 48.0	86.5		Glimpse through clouds.
21	.	. .	. .	— 11.9	— 36.6	59 19 13.7	+ 69 34 25.5	112.8		
22	. .	. .	. .	+ 13.6	+ 2 1.2	153 2 15.7	— 24 8 36.5	85.2		
23	. .	. .	. .	— 50.7	4 43.1	167 58 53.6	— 39 5 14.4	78.1		
24	. .	. .	. .	+ 1 41.4	45.6	126 22 26.7	+ 2 31 12.5	90.0		
25	25.7	20.9	. .	— 35.9	+ 35.3	119 39 58.7	9 13 30.5	— 91.2		
26	. .	. .	. .	1 10.3	— 4 5.3	13 54 43.4	65 1 4.2	+ 102.3		
27	. .	. .	. .	— 25.1	+ 32.6	117 40 7.5	+ 11 13 31.7	— 87.8		Division under mic. C defective.
28										
29	24.5	20.1	. .	+ 2 35.3	1 27.7	144 44 3.4	— 15 50 24.2	74.2		
30	. .	. .	. .	— 1 37.4	19.3	107 13 43.0	+ 21 39 56.2	82.2		
31	. .	. .	. .	+ 1 7.1	3 23.6	163 14 31.9	— 34 20 52.7	64.5		
32	. .	. .	. .	+ 1 52.9	1 58.5	152 23 53.2	23 30 14.0	65.5		
33	. .	. .	. .	— 56.1	+ 3 28.6	163 37 32.9	— 34 43 53.7	— 61.2		
34	23.3	19.7	. .	— 1 2.0	— 1 39.5	31 57 17.9	+ 83 3 38.7	+ 82.7		
35	. .	. .	. .	+ 2 39.7	+ 2 15.8	155 29 55.7	— 26 36 16.5	— 58.1		
36	. .	. .	. .	— 1 56.7	+ 1 52.6	151 8 49.3	— 22 15 10.1	— 57.6		
37	. .	. .	. .	+ 1.9	— 2 39.2	21 12 22.6	+ 72 18 43.4	+ 73.3		
38	. .	. .	. .	+ 2 34.0	+ 1 59.6	152 34 34.8	— 23 40 55.6	— 49.4		
39	22.0	19.0	. .	— 35.4	2 2.8	153 11 28.0	— 24 17 48.8	47.2		
40	. .	. .	. .	15.5	13.9	105 45 0.9	+ 23 8 46.7			
41	. .	. .	. .	32.4	13.9	105 44 44.0				
42	. .	. .	. .	— 4 44.6	1 58.8	152 22 14.1	— 23 28 34.9	37.9		
43	. .	. .	. .	+ 1 27.2	1 59.4	152 28 26.5	23 34 47.3	36.8		
44	. .	. .	. .	— 1 40.8	1 58.8	152 20 18.7	23 26 39.5	32.6		
45	. .	. .	. .	— 3 58.5	1 58.6	152 18 0.8	23 24 21.6	31.9		r. Recorded 37.743.
46	22.7	18.1	. .	+ 1 52.9	2 18.0	155 44 9.6	26 50 30.4	28.2		
47	. .	. .	. .	+ 2 54.2	2 2.3	152 59 55.2	24 6 16.0	25.8		
48	. .	. .	. .	— 1 48.8	1 59.3	152 25 11.9	— 23 31 32.7	22.9		
49	23.3	17.6	. .	31.3	+ 20.6	108 9 50.9	+ 20 43 48.3			
50	. .	. .	. .	— 2 23.2	— 45.6	53 56 53.5	74 56 45.7	— 13.3		
51	. .	. .	. .							
52	22.7	17.2	. .	+ 45.3	+ 17.0	105 16 4.8	23 37 34.4			
53	. .	. .	. .	22.2	17.8	105 50 43.0	23 2 56.2			
54	22.5	17.2	. .	+ 3 16.2	18.1	106 3 35.8	+ 22 50 3.5	+ 35.4		
55	25.0	22.7	29.142	— 3 19.9	1 49.1	152 3 29.8	— 23 26 9.5		Ha.	
56	. .	. .	. .	— 44.6	1 51.9	152 36 7.6				
57	27.5	25.2	. .	+ 1 40.3	1 47.1	151 48 28.0	22 54 48.8			
58	. .	. .	. .	— 1 3.7	2 3.3	153 25 59.7	— 24 32 20.5	— 79.0		
59	26.5	22.4	. .	— 1 9.5	17.9	106 4 10.8	+ 22 49 28.4	92.9		
60	26.0	21.8	. .	+ 30.1	1 29.3	145 16 59.6	— 16 23 20.4	66.0		
61	. .	. .	. .	+ 1 6.2	2 1.4	153 3 7.9	24 9 28.7	62.6		
62	26.0	22.6	. .	— 40.6	1 38.2	147 50 57.7	18 57 18.5	56.5		
63	. .	. .	. .	+ 5 6.2	1 59.2	152 42 6.5	23 48 27.3	48.1		r. Recorded 27.130.
64	. .	. .	. .	— 4 10.4	1 58.5	152 32 49.2	23 39 10.0	47.4		
65	. .	. .	. .	+ 1 34.6	1 38.8	148 3 13.6	19 9 34.2	47.2		
66	. .	. .	. .	— 1 2.4	+ 1 38.0	147 50 34.7	— 18 56 55.5	— 44.6		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
1864.						° ′ ″	″	″	″	″	″	″	*r.*	*r.*	*in.*
Dec. 23	1	Anon. 3h. 55m. 24s.	7.0	1	V.	151 29 55.9	69.0	60.2	67.2	58.3	56.5	61.18	26.622	.625	- -
	2	Mars, centre . . .		3	IV–VI.	105 44 56.0	71.0	60.3	68.8	61.0	58.9	62.67	27.454	.459	30.100
	3	Nadir 4h. 40m. . .		4	- -	269 59 56.3	68.8	59.1	67.7	60.0	58.8	61.78	29.191	.195	- -
24	4	Weisse O, 247 . .		1	IX.	122 39 56.8	67.0	57.6	64.3	59.3	60.2	60.87	34.699	.673	30.203
	5	Neptune		5	I–IX.	127 59 57.0	67.0	56.9	63.3	60.8	59.5	60.75	23.704	.705	- -
	6	Anon. 0h. 29m. 42s.	8.0	1	V.	167 49 57.3	67.3	60.0	66.3	61.5	59.5	61.98	26.489	.494	- -
	7	Weisse O, 583 . .	7.3	1	V.	125 59 56.9	67.7	57.1	62.1	60.3	59.1	60.53	26.521	.526	- -
	8	Weisse O, 770 . .	9.0	3	I–IX.	125 34 57.1	68.5	58.2	63.4	60.9	59.9	61.33	27.997	.996	30.201
	9	Weisse O, 775 . .	7.5	3	II–VIII.	" " "	"	"	"	"	"	"	32.372	.377	- -
	10	Weisse II, 61 . .	7.7	4	VI–IX.	117 39 58.0	67.8	56.4	63.2	59.9	60.1	60.90	29.987	.969	30.217
	11	ι Cassiopeæ . . .		5	III–VII.	62 19 56.2	66.6	58.5	64.2	60.7	62.2	61.40	26.613	.602	- -
	12	5 Ursæ Minoris, S. P. . .		3	V½–IV½.	25 14 56.0	67.2	59.1	66.1	58.3	58.2	60.82	32.429	.438	- -
	13	Weisse II, 805 . .	7.8	5	III–VII.	107 14 56.2	68.4	58.8	63.7	60.6	59.5	61.20	32.211	.213	30.206
	14	β Ursæ Min.S.P.(Ref.) . .		5	- -	336 19 56.2	65.9	59.1	61.0	58.9	57.5	59.77	25.761	.652	- -
	15	B. A. C. 4982, S. P.	5.0	. .	- -	31 59 57.5	68.4	60.8	67.3	61.4	61.0	62.73	31.301	.370	- -
	16	Lacaille 1041 . .	6.3	1	V.	152 54 57.4	67.5	60.4	66.4	60.1	60.5	62.05	33.279	.285	30.212
	17	Anon. 3h. 18m. 16s.		1	V.	147 49 57.1	66.9	59.2	64.0	59.3	59.1	60.93	30.441	.447	- -
	18	Nadir 3h. 30m. . .		3	- -	269 59 57.6	67.0	58.4	65.4	60.5	61.2	61.68	29.195	.200	- -
	19	8 Pleiadum, (Ref.) .		1	V.	254 49 58.3	67.8	61.0	68.5	62.5	64.3	63.73	23.669	.671	- -
	20	η Tauri, (Ref.) . .		5	III–VII.	" " "	"	"	"	"	"	"	33.604	.610	- -
	21	28 Tauri		5	III–VII.	" " "	"	"	"	"	"	"	29.448	.457	- -
	22	ζ Ursæ Minoris, S. P.		3	VI.	27 9 58.1	69.5	61.5	68.9	61.3	61.5	63.47	33.038	.066	30.208
	23	Mars S. L. . . .		3	I–IX.	105 44 58.0	69.8	60.5	67.2	63.4	62.9	63.63	24.996	.983	- -
	24	Mars N. L. . . .		2	III, VII.	" " "	"	"	"	"	"	"	25.488	.487	- -
	25	Anon. 4h. 5m. 2s. .	8.2	1	V.	155 49 57.0	66.5	58.4	64.0	59.7	58.0	60.60	30.676	.678	- -
	26	Anon. 4h. 13m. 33s.	8.5	1	V.	152 34 56.8	67.3	60.1	65.1	59.6	59.5	61.40	26.435	.441	- -
	27	O. Arg. S. 3082 . .	8.0	1	V.	152 14 56.2	66.8	59.2	63.5	60.1	58.9	60.78	22.754	.755	- -
	28	O. Arg. S. 3108 . .	8.8	5	III–VII.	" " "	"	"	"	"	"	"	27.096	.102	- -
	29	α Tauri, (Ref.) . .		3	II–IV.	247 19 56.5	66.2	59.7	66.6	61.4	61.9	62.05	27.648	.667	- -
	30	α Tauri		4	VI–IX.	112 39 56.4	67.6	58.8	63.8	60.1	60.0	61.12	30.821	.800	- -
	31	Anon. 4h. 36m. 44s.	7.0	5	I–IX.	152 19 57.0	67.8	60.2	65.0	61.8	59.9	61.95	32.958	.969	30.217
	32	Weisse IV, 1047 .	9.0	1	VI.	101 14 54.9	65.4	55.5	62.8	58.3	58.2	59.18	26.455	.452	- -
	33	Anon. 4h. 59m. 53s.	8.8	1	V.	152 39 56.2	66.9	59.1	64.4	60.0	59.4	61.00	25.642	.644	- -
	34	Fortuna	9.3	5	I–IX.	108 9 56.3	68.5	59.5	62.9	60.2	59.6	61.17	25.191	.186	30.224
28	35	Sun S. L. . . .		4	I–IV.	152 24 59.5	69.0	61.6	65.2	62.6	64.2	63.68	32.304	.335	29.536
	36	Mercury, centre . .		1	V.	150 9 57.8	67.1	60.1	63.2	61.1	61.3	61.77	31.038	.040	29.528
29	37	Weisse O, 302 . .		1	V.	121 59 55.3	69.6	59.7	65.5	54.6	57.4	60.35	36.313	.319	29.648
	38	Nadir 0h. 40m. . .		3	- -	269 59 55.6	68.5	59.4	67.0	58.5	58.7	61.28	29.145	.107	- -
	39	Weisse I, 269 . .		1	V.	123 9 57.8	69.8	60.0	68.5	56.7	59.0	61.97	36.589	.592	29.656
	40	ν Piscium		3	III–VII.	124 5 56.7	70.0	61.9	68.9	58.5	62.0	63.00	29.734	.734	- -
	41	Weisse I, 772 . .		1	V.	120 59 55.9	68.8	58.7	67.3	56.9	61.8	61.57	28.807	.807	- -
	42	50 Cassiopeæ		5	III–VII.	57 9 . .	68.4	61.8	69.3	58.9	62.0	63.50	32.980	.958	29.656
	43	Lacaille 745 . . .		1	IX.	163 14 54.6	67.2	60.8	67.0	56.8	56.6	60.50	27.956	.967	- -
	44	δ Ceti		5	I–IX.	129 9 55.0	66.4	57.3	65.0	56.0	55.8	59.25	32.546	.550	29.668
	45	γ Fornacis	6.0	5	III–VII.	153 59 56.5	68.3	61.9	66.5	57.1	56.4	61.12	31.478	.487	- -
	46	Lacaille 951 . . .	6.7	5	III–VII.	163 34 57.5	69.0	63.3	68.8	59.6	58.6	62.80	30.706	.712	- -
	47	Weisse III, 36 . .	6.0	1	V.	116 19 57.4	69.1	60.8	67.1	57.2	58.5	61.68	27.040	.042	- -
	48	B. A. C. 1039 . .	5.0	1	VII.	153 29 56.8	68.3	62.1	68.0	56.2	57.5	61.48	31.782	.777	- -
	49	Anon. 3h. 14m. 37s.	7.5	1	V.	" " "	"	"	"	"	"	"	32.973	.974	29.666
	50	Lacaille 1124 . .	6.0:	1	V.	154 59 56.6	68.9	61.0	67.3	57.8	58.2	61.63	36.585	.588	- -
	51	O. Arg. S. 2343 . .	8.5	1	V.	" " "	"	"	"	"	"	"	31.667	.669	- -
	52	η Tauri, (Ref.) . .		3	IV–VI.	254 44 56.7	68.3	62.6	70.4	58.5	61.0	62.92	23.984	.986	- -
	53	27 Tauri, (Ref.) . .		5	III–VII.	" " "	"	"	"	"	"	"	29.384	.393	- -
	54	Lacaille 1271 . . .		2	VIII, IX.	152 24 56.8	68.5	62.5	69.2	58.4	59.6	62.50	32.070	.070	29.660
	55	Mars, centre		5	I–IX.	105 49 56.6	71.0	62.8	70.4	60.2	60.5	63.58	26.430	.433	- -
	56	Anon. 4h. 5m. 2s. .		1	V.	155 49 56.8	67.0	60.4	67.0	56.5	55.9	60.60	30.548	.552	- -
	57	Anon. 4h. 13m. 33s.	9.0	1	V.	152 34 56.0	67.6	61.5	67.9	56.4	57.5	61.15	26.285	.291	- -
	58	Lacaille 1474 . .	6.2	5	I–IX.	155 24 56.4	67.4	61.6	68.0	57.5	57.2	61.35	27.044	.059	29.656
	59	Anon. 4h. 32m. 17s.	8.7	1	V.	155 54 56.1	66.6	59.2	67.0	56.0	55.8	60.12	29.690	.691	- -
	60	Anon. 4h. 41m. 8s. .	8.8	1	V.	118 9 55.0	67.2	57.2	65.6	55.2	56.4	59.43	29.635	.637	- -
	61	Nadir 4h. 55m. . .		4	- -	269 59 55.2	66.9	59.3	67.6	56.9	57.5	60.57	29.160	.164	- -
	62	Anon. 4h. 59m. 53s.	8.7	1	V.	152 39 55.5	67.2	60.8	67.5	57.5	56.7	60.87	25.534	.538	- -
	63	Fortuna		1	VII.	108 19 55.4	68.5	60.1	65.8	57.1	57.3	60.70	33.215	.203	- -
	64	ε Orionis		4	I–IV.	130 9 55.1	67.3	58.0	66.5	55.9	56.2	59.83	28.383	.404	29.666
30	65	Sun N. L. . . .		4	I–IV.	151 44 55.3	68.0	59.0	66.2	58.8	58.1	60.90	32.674	.697	29.758
	66	Sun S. L. . . .		4	VI–IX.	152 14 56.0	68.9	60.1	67.0	59.4	59.1	61.75	28.022	.024	- -
	67	Venus, centre . .		5	III–VII.	145 34 56.1	68.1	58.0	63.8	59.1	59.2	60.72	30.503	.510	29.770

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.142	+ 1 18.9	+ 1 53.6	151 33 13.6	— 22 39 34.4	— 42.3	Ha.	
2	26.0	23.4	. .	+ 52.7	13.8	105 46 9.1	+ 23 7 30.1			
3										
4	35.0	33.2	. .	— 2 53.3	38.9	122 37 46.4	6 15 52.8	105.1	N.	
5	. .	. .	. .	+ 2 50.4	47.4	128 3 38.5	+ 0 50 0.7			
6	. .	. .	. .	1 23.0	4 36.4	167 56 1.3	— 39 2 22.1	89.0		
7	. .	. .	. .	1 22.0	44.2	126 2 6.7	+ 2 51 32.5	102.3		
8	34.7	31.7	. .	+ 35.9	43.6	125 36 20.8	3 17 18.4	101.2		
9	. .	. .	. .	— 1 41.4	43.5	125 34 3.4	3 19 35.8	101.2		
10	33.0	30.4	. .	— 25.9	+ 32.0	117 40 7.0	11 13 32.2	87.7		
11	. .	. .	. .	+ 1 19.6	— 32.4	62 5 48.6	66 47 50.0	— 97.1		
12	. .	. .	. .	— 1 43.3	— 2 9.3	25 11 8.2	76 17 29.0	+ 95.1		
13	32.5	29.7	. .	— 1 36.2	+ 19.0	107 13 44.0	21 39 55.2	— 82.2		
14	. .	. .	. .	+ 1 49.3	+ 2 19.4	336 24 8.5	74 42 12.2	+ 86.5		[8s., and 54m. 44s. At 2h. 52m. 2s., 52m. 29s., 52m. 54s., 54m.
15	. .	. .	. .	— 1 9.8	— 1 38.0	31 57 14.9	+ 83 3 35.7	+ 83.4		At 3h. 1m. 55s., 2m. 10s., and 2m. 25s.
16	32.3	28.6	. .	2 9.8	+ 1 59.3	152 54 51.5	— 24 1 12.3	— 57.5		Recorded 152° 49′.
17	. .	. .	. .	— 40.9	+ 1 37.3	147 50 57.3	— 18 57 18.1	56.3		
18										
19	. .	. .	. .	+ 2 51.3	— 16.6	254 52 38.4	+ 23 46 17.6	58.4		
20	. .	. .	. .	— 2 20.0	16.7	254 47 27.0	23 41 6.2	58.0		
21	. .	. .	. .	9.9	16.7	254 49 37.1	23 43 16.3	— 57.2		
22	31.7	27.0	. .	— 2 2.9	— 1 59.6	27 6 0.9	78 12 21.7	+ 61.5		
23	. .	. .	. .	+ 2 10.3	+ 13.7	105 47 27.6	+ 23 6 19.5			
24	. .	. .	. .	+ 1 54.5	13.7	105 47 11.8				
25	. .	. .	. .	— 48.1	2 16.5	155 51 29.0	— 26 57 49.8	— 37.6		
26	. .	. .	. .	+ 1 24.6	1 58.5	152 38 24.5	23 44 45.3	34.9		
27	. .	. .	. .	3 20.1	1 57.0	152 20 17.8	23 26 38.6	32.1		
28	. .	. .	. .	1 3.9	+ 1 56.9	152 18 1.5	— 23 24 22.3	31.4		Recorded 26r.
29	. .	. .	. .	+ 46.2	— 25.7	247 20 22.5	+ 16 14 1.8	35.2		
30	. .	. .	. .	— 51.9	+ 25.7	112 39 34.9	+ 16 14 4.3			
31	31.0	25.8	. .	— 1 59.9	1 57.1	152 19 59.1	— 23 26 19.9	25.7		
32	. .	. .	. .	+ 1 24.3	12.3	101 16 35.7	+ 27 37 3.5	27.8		
33	. .	. .	. .	1 49.6	1 59.2	152 43 49.8	— 23 50 10.6	16.2		
34	30.3	25.0	. .	+ 2 4.0	+ 20.2	108 12 25.4	+ 20 41 13.8			
35	47.0	46.3	29.146	— 1 39.9	— 14 36.0	152 8 47.7	— 23 15 8.5		Ha.	
36	48.5	50.0	. .	59.3	+ 1 30.7	150 10 33.1	— 21 16 53.9			
37	36.0	30.8	29.107	3 46.0	37.4	121 56 51.7	+ 6 56 47.5	104.8	H.*	* Prof. Hall.
38										
39	35.3	30.2	29.146	3 53.3	39.1	123 6 47.7	5 46 51.5	96.8	D.	
40	. .	. .	. .	— 18.4	40.6	124 5 25.2	4 48 14.0	93.0		
41	. .	. .	. .	+ 10.6	+ 36.1	121 0 48.2	7 52 51.0	91.9		R. A. 10s. too small in Weisse's Catalogue.
42	34.5	30.1	. .	— 1 59.4	— 38.8	57 7 25.3	+ 71 46 13.9	106.4		N. read circle. Division of circle under mic.
43	. .	. .	. .	+ 36.9	+ 3 17.4	163 18 54.8	— 34 25 15.6	69.1	N.	A obliterated; + 0″.5 applied to mean of
44	34.3	29.7	. .	— 1 46.7	48.9	129 9 1.4	0 15 22.2	76.0		C, D, E, and F; cloudy.
45	. .	. .	. .	1 13.3	2 2.6	154 0 50.4	25 7 11.2	65.3		43. Cloudy; very unreliable.
46	. .	. .	. .	— 49.1	3 21.6	163 37 35.3	— 34 43 56.1	60.0		
47	. .	. .	. .	+ 1 5.9	29.8	116 21 37.3	+ 12 32 1.9	69.1		
48	. .	. .	. .	— 1 22.4	2 0.1	153 30 39.1	— 24 36 59.9	55.8		
49	33.0	28.9	. .	1 59.9	2 0.1	153 30 1.6	24 36 22.4	55.5		
50	. .	. .	. .	3 53.2	2 8.1	154 58 16.5	26 4 37.3	51.1		
51	. .	. .	. .	— 1 19.1	+ 2 8.4	155 0 50.9	— 26 7 11.7	50.9		r.
52	. .	. .	. .	+ 2 41.7	— 16.4	254 47 28.2	+ 23 41 7.5	58.0		Recorded 33.984.
53	. .	. .	. .	— 7.7	— 16.4	254 44 38.8	+ 23 38 18.1	57.3		
54	32.5	28.3	. .	— 1 31.6	+ 1 54.6	152 25 25.5	— 23 31 46.3	43.6		Unsteady and blurred.
55	. .	. .	. .	+ 1 25.0	13.6	105 51 42.1	+ 23 1 57.1			Much blurred.
56	. .	. .	. .	— 44.1	2 13.5	155 51 30.0	— 26 57 50.8	36.6		
57	. .	. .	. .	+ 1 29.5	1 55.8	152 43 26.4	23 49 47.2	33.8		Recorded 152° 39′.
58	32.5	28.4	. .	+ 1 5.4	2 11.1	155 28 17.8	26 34 38.6	29.2		
59	. .	. .	. .	— 17.1	2 14.1	155 56 57.1	— 27 3 17.9	25.8		
60	. .	. .	. .	— 15.4	32.1	118 10 16.1	+ 10 43 23.1	28.2		
61										
62	. .	. .	. .	+ 1 53.0	1 56.3	152 43 50.1	— 23 50 10.9	15.0		
63	. .	. .	. .	— 2 7.2	19.9	108 18 13.4	+ 10 35 25.8			Very faint and uncertain.
64	32.5	27.8	. .	+ 23.2	50.9	130 11 13.9	— 1 17 34.7	— 4.6		Bar. and thermometer read at 5h. 48m.
65	37.5	38.8	. .	— 1 51.3	1 41.9	151 44 51.5	23 7 27.2		Ha.	
66	. .	. .	. .	+ 35.2	1 44.4	152 17 21.3				
67	40.5	40.3	. .	— 42.7	+ 1 19.5	145 35 37.5	— 16 41 58.3			

OBSERVATIONS

WITH THE

PRIME VERTICAL TRANSIT INSTRUMENT,

1864.

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES. A.	B.	C.	D.	E.	F.	G.	Telescope.	TIMES OF TRANSIT OVER WIRES. G.	F.	E.	D.	C.	B.	A.
1864.					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
Jan. 1	1	α Lyræ . . .	E.	N.	18 5 19.0	49.0	20.0	50.5	22.0	53.0	23.0	S.	24.0	58.0	33.0	11.0	50.0	29.0	15 11.0
	2		W.	S.	18 3 . .	23.0	3.0	40.0	17.0	55.0	31.0	N.	29.0	1.0	30.0	2.5	31.0	3.0	13 32.0
13	3	α Lyræ . . .	E.	S.	18 5 . .	. .	30.0	1.0	31.0	4.0	38.0	N.	32.0	9.5	46.0	23.0	2.0	. .	15 . .
	4		W.	N.	19 4 . .	. .	22.5	59.0	34.0	14.5	52.5	S.	43.5	17.0	50.5	20.0	49.0	. .	13 . .
15	5	α Lyræ . . .	E.	N.	18 5 37.0	6.5	36.7	6.7	37.7	9.5	39.0	S.	37.3	10.3	48.0	25.7	2.0	42.3	15 23.0
	6		W.	S.	19 4 3.5	43.3	23.7	0.0	40.0	16.5	50.0	N.	48.0	17.7	50.0	21.0:	51.0	21.7	13 50.7
22	7	α Lyræ . . .	E.	S.	18 5 49.3	16.7	47.7	17.0	47.0:	20.5	53.0	N.	47.5	24.7	3.7	41.0	18.0	57.7	15 36.3
	8		W.	N.	19 4 22.7	1.0	41.7	18.3	56.3	35.7	12.0	S.	3.5	36.3	10.0	40.3	9.0	40.3	14 7.0
24	9	α Lyræ . . .	E.	N.	18 5 57.0	26.0	56.0	27.0	57.3	28.7	59.0	S.	57.0	30.0	9.0	46.0	23.0	4.3	15 43.5
	10		W.	S.	19 4 26.0	7.0	46.7	24.0	2.0	39.0	12.7	N.	14.0	54.0	15.5	47.5	16.0	47.0	14 16.3
25	11	α Lyræ . . .	E.	S.	18 6 1.0	28.5	58.5	28.0	58.0	. .	4.0	N.	57.5	. .	13.0	50.0	27.5	8.0	15 45.0
	12		W.	N.	19 4 32.5	11.0	51.0	29.5	6.0	. .	21.5	S.	13.5	. .	19.0	49.5	19.5	49.0	14 16.5
26	13	α Lyræ . . .	E.	N.	18 5 59.3	29.5	0.0	29.0	0.7	32.0	2.0	S.	0.0	32.5	10.5	48.3	25.0	5.3	15 45.7
	14		W.	S.	19 4 33.0	14.5	53.7	31.3	9.0	46.7	19.7	N.	20.0	49.3	22.0	52.7	22.7	53.0	14 22.0
28	15	α Lyræ . . .	E.	S.	18 6 3.5	31.5	4.0	32.7	1.7	34.0	9.0	N.	1.0:	40.5	18.5	55.7	32.0	12.7	15 51.0
	16		W.	N.	19 4 42.0	19.5	1.0	37.0	15.0	51.7	30.0	S.	19.7	53.5	26.0	56.0	25.3	56.0	14 25.0
Feb. 4	17	α Lyræ . . .	E.	N.	18 6 7.5	38.0	8.5	37.0	8.5	41.0	10.5	S.	5.5	39.5	16.0	54.0	31.0	10.5	15 51.5
	18		W.	S.	19 4 51.5	31.0	12.0	48.5	26.5	3.5	36.5	N.	35.0	6.5	36.0	8.0	36.0	8.0	14 37.0
9	19	α Lyræ . . .	E.	S.	18 6 16.0	44.0	14.0	43.7	14.7	47.7	21.0	N.	13.7	49.3	29.0	5.0	42.5	22.7	16 1.0
	20		W.	N.	19 5 4.0	42.3	20.3:	59.0	36.5	14.5	52.0	S.	45.7	17.7	51.0	20.0	50.3	21.0	14 48.3
23	21	α Lyræ . . .	E.	N.	18 6 26.3	55.3	26.0	55.0	26.7	58.3	28.0:	S.	25.0	58.0	34.3	12.7	49.3	29.3	16 9.0
	22		W.	S.	19 5 17.3	56.7	38.0	14.0	52.5	29.0	1.5	N.	59.3	28.7	0.5	31.7	0.3	31.7	15 0.5
25	23	α Lyræ . . .	E.	S.	18 6 31.0	58.0	28.0	58.3	28.5	1.5	34.3	N.	27.3	4.0	43.0	20.0	57.3	36.5	16 14.5
	24		W.	N.	19 5 20.7	58.3	39.0	15.3	52.5	31.5	8.3	S.	0.5	33.3	6.0	37.5	6.7	37.3	15 4.5
26	25	α Lyræ . . .	E.	N.	18 6 31.7	1.0	32.3	0.5	32.0	4.3	33.7	S.	28.0	2.0	39.5	17.0	53.7	33.5	16 13.7
	26		W.	S.	19 5 32.7	2.3	42.5	19.3	57.7	35.3	7.0	N.	4.3	33.3	5.7	36.7	5.7	37.5	15 5.7
Mar. 1	27	α Lyræ . . .	E.	S.	18 6 33.5	1.7	31.7	1.0	31.3:	3.7	37.0	N.	32.7	7.5	46.7	22.5	0.5	40.5	16 18.0
	28		W.	N.	19 5 25.3	4.3	44.0	21.0	57.0	37.0	13.7	S.	9.0	42.0	13.7	43.7	14.3	43.7	15 12.0
3	29	α Lyræ . . .	E.	N.	18 6 34.3	5.0	35.0	4.7	36.0	6.7	37.0	S.	30.0	4.0	41.0:	19.0	55.5:	36.0	16 16.0
	30		W.	S.	19 5 31.7	10.7	51.0	28.0	4.5	42.0	15.3	N.	10.7	40.0	11.7	44.3	12.3	43.5	15 12.3
6	31	α Lyræ . . .	E.	S.	18 6 38.3	5.5	36.0	5.7	36.3	9.3	41.5	N.	35.5	12.3	51.0	28.0	4.7	44.3	16 22.3
	32		W.	N.	19 5 30.5	8.0	48.0	25.0	2.3	41.0	18.0	S.	11.7	44.3	16.5	47.7	16.5	47.0	15 14.7
11	33	α Lyræ . . .	E.	N.	18 6 39.3	8.7	39.7	8.7	40.0	11.7	40.7	S.	35.3	8.0	45.7	23.0	59.7	40.3	16 19.0
	34		W.	S.	19 5 33.5	13.3	53.7	30.0	7.7	45.0	17.0	N.	14.0	43.0	15.0	46.3	15.3	46.0	15 14.7
13	35	α Lyræ . . .	E.	S.	18 6 . .	13.5	43.5	14.0	44.0	16.0	50.0	N.	43.0	20.5	58.5	34.0	12.5	52.0	16 . .
	36		W.	N.	19 5 . .	14.5	55.0	32.5	8.5	46.5	24.0	S.	15.5	. .	21.5	. .	22.0	51.0	15 . .
May 9	37	α Lyræ . . .	E.	N.	18 8 . .	47.3	18.5	47.5	18.7	51.0	20.0	S.	16.3	49.5	27.5	4.0	41.5	22.5	18 1.5
	38		W.	S.	19 6 57.0	37.5	18.7	54.5	32.0	10.3	43.0	N.	40.0	9.5	42.3	13.7	42.0	14.0	16 42.0
19	39	α Lyræ . . .	E.	S.	18 7 . .	26.5	57.0	28.0	0.5	31.5	4.5	N.	55.5	32.5	11.5	50.5	28.0	6.5	17 . .
	40		W.	N.	19 6 . .	10.0	51.5	25.5	5.0	44.5	20.5	S.	13.0	46.5	18.0	48.5	19.5	49.5	16 . .
20	41	α Lyræ . . .	E.	N.	18 7 59.0	28.0	59.0	29.5	0.0	32.5	2.5	S.	59.5	33.5	10.0	48.5	26.0	5.5	17 46.5
	42		W.	S.	19 6 32.0	12.5	52.0	27.5	7.5	44.0	18.0	N.	15.5	46.5	18.0	49.0	18.0	49.5	16 16.5
22	43	α Lyræ . . .	E.	S.	18 8 . .	. .	2.0	. .	3.0	36.5	6.5	N.	3.0	39.0	18.0	57.0	33.0	13.0	17 51.0
	44		W.	N.	19 6 32.0	9.0	51.0	28.0	5.0	44.5	24.0	S.	16.0	49.0	21.0	53.0	22.0	53.0	16 21.0
30	45	α Lyræ . . .	E.	N.	18 8 25.5	54.5	26.0	56.0	26.0	58.5	27.0	S.	26.5	59.0	35.5	14.5	51.5	33.0	18 13.0
	46		W.	S.	19 6 52.0	33.0	13.0	51.5	28.0	5.0	39.0	N.	38.0	7.0	38.5	10.5	37.5	8.5	16 40.0
31	47	α Lyræ . . .	E.	S.	18 8 30.0	57.5	25.5	56.0	27.0	1.0	33.0	N.	27.5	3.5	43.5	19.0	58.0	38.5	18 16.0
	48		W.	N.	19 6 56.5	33.5	11.5	51.5	28.5	8.0	45.5	S.	. .	9.5	44.5	15.0	44.5	15.0	16 42.5
June 3	49	α Lyræ . . .	E.	N.	18 8 37.5	8.0	38.0	6.0	39.0	12.0	40.5	S.	39.0	11.5	49.0	28.5	5.0	45.0	18 26.5
	50		W.	S.	19 7 0.0	40.5	23.0	0.0	37.5	14.0	47.5	N.	46.0	14.0	47.0	19.0	48.0	19.0	16 49.5

No. for reference.	LEVEL READINGS. Before reversal. N.	Before reversal. S.	After reversal. N.	After reversal. S.	Mean, ½ (S.–N.)	Correction for level.	Apparent declination.	Reduction to 1860.0.	Seconds of mean declination, 1860.0.	Weight.	Observer.	REMARKS.
	d.	d.	d.	d.	d.	//	° ′ //	//	° ′ //			
1	71.73	72.53	70.28	73.13	+ 0.91	+ 0.60	38 39 37.65	— 16.96	38 39 20.69	½	Ha.	
2	69.33	70.42	69.42	69.57	0.31							
3	64.80	64.95	64.37	64.28	+ 0.01	— 0.04	33.74	23.26	20.48	2		Clock fast 7m. 19s.9.
4	63.20	62.52	61.98	62.27	— 0.10					2		Whence azimuth = 4s.5.
5	66.52	62.97	66.22	62.68	1.77	1.90	32.93	12.67	20.24	4	N.	
6	64.70	60.80	64.37	59.92	2.09					3		
7	64.52	61.42	63.88	61.28	1.42	1.42	30.72	10.75	19.97	3		
8	62.38	59.35	61.68	58.85	1.46					3		
9	56.32	51.10	55.35	50.90	2.42	2.44	30.36	10.14	20.22	2		
10	51.55	46.90	50.82	45.35	2.53					3		
11	52.17	47.57	50.98	45.33	2.56	2.43	30.12	9.78	20.34	4	Ha.	
12	49.08	43.52	47.53	43.60	2.37					4		
13	61.28	58.15	60.62	57.88	1.47	1.44	29.53	9.48	20.05	3	N.	
14	57.92	55.30	57.70	54.52	1.45					3		
15	60.68	56.58	60.20	56.20	2.02	— 1.94	29.09	8.94	20.15	3		
16	57.80	53.82	57.22	53.52	— 1.92					3		
17	62.92	64.33	62.68	63.90	+ 0.66	+ 0.62	27.42	7.27	20.15	4	Ha.	
18	61.30	62.47	60.18	61.38	0.59					3		
19	71.62	73.30	71.05	74.00	1.16	+ 1.01	26.25	5.95	20.30	3	N.	Clock fast 8m. 9s.8.
20	70.98	73.37	71.35	72.58	+ 0.90					3		Azimuth, 2s.6.
21	61.95	60.70	62.28	60.88	— 0.66	— 0.73	22.97	3.20	19.77	4		Clock fast 8m. 20s.
22	61.72	60.00	61.38	59.78	0.83					4		Azimuth, 3s.
23	69.10	66.85	69.00	66.82	1.11	1.14	23.08	2.90	20.18	4		
24	67.97	65.55	67.82	65.45	1.20					4		
25	52.68	51.40	53.32	51.35	0.81	0.78	22.83	2.80	20.03	3		Diminished length of bubble of level.
26	52.52	50.80	51.88	50.52	0.77					4		
27	55.68	53.60	55.98	54.70	0.84	— 0.65	22.04	2.39	19.65	2		Temperature of room 10° higher than that
28	57.10	56.62	57.50	56.05	— 0.48					3		of external air.
29	54.32	55.52	54.90	55.52	+ 0.45	+ 0.44	21.92	2.12	19.80	2		
30	54.28	54.95	53.90	55.02	+ 0.45					3		
31	59.50	56.18	59.40	56.48	— 1.58	— 1.47	21.66	1.70	19.96	5		
32	58.78	55.88	58.55	55.82	1.41					3		
33	52.10	50.10	52.55	49.98	1.14	1.10	21.16	1.32	19.84	3		Tested parallelism of axis of level, and
34	52.55	50.15	52.15	50.18	1.09					4		found it sensibly perfect.
35	56.95	49.82	56.62	51.40	3.08	2.62	21.61	1.39	20.32	4	Ha.	
36	56.78	52.60	57.20	52.42	2.24					4		
37	34.22	30.92	34.45	31.72	1.51	1.36	27.61	7.41	20.20	3	N.	
38	35.05	33.22	35.95	32.80	1.24					3		
39	45.18	40.55	45.55	40.38	2.47	2.38	30.12	9.93	20.19	1	Ha.	
40	46.00	40.75	44.92	40.70	2.35					1		
41	45.20	40.40	44.92	41.25	2.12	1.97	30.50	10.25	20.25	2		
42	44.85	41.58	44.80	40.50	1.89					2		
43	44.62	39.55	45.32	40.45	2.48	2.37	31.40	10.86	20.54	2		
44	45.98	41.22	45.78	41.15	2.35					2		
45	44.28	41.48	45.18	41.22	1.69	1.64	33.25	13.01	20.24	4		
46	45.45	42.00	45.18	42.08	1.64					4		
47	41.70	38.08	42.08	38.55	1.79	1.75	33.26	13.33	19.93	3		
48	42.62	39.42	43.42	39.58	1.76					3		
49	48.75	44.95	48.70	44.75	1.94	— 1.76	38 39 34.95	— 14.35	38 39 20.60	3		
50	48.42	44.98	48.15	45.08	— 1.63					3		

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES. A.	B.	C.	D.	E.	F.	G.	Telescope.	TIMES OF TRANSIT OVER WIRES. G.	F.	E.	D.	C.	B.	A.
1864.					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
June 7	1	α Lyræ . . .	E.	S.	18 8 49.5	17.0	45.0	16.5	47.0	19.0	54.0	N.	46.5	25.5	1.0	40.0	16.5	58.5	18 35.5
	2		W.	N.	19 7 11.0	46.5	27.5	4.5	40.0	20.0	58.5	S.	49.5	28.0	0.0	30.0	59.5	29.5	16 54.0
12	3	α Lyræ . . .	E.	N.	18 9 . .	31.5	1.0	32.0	3.0	34.0	2.0	S.	3.0	36.0	14.0	54.0	28.5	12.0	18 50.0
	4		W.	S.	19 7 20.0	2.5	43.0	18.5	57.5	33.0	9.0	N.	6.0	33.5	6.0	38.0	7.5	40.5	17 8.0
13	5	α Lyræ . . .	E.	S.	18 9 4.0	34.5	4.0	34.0	4.5	38.0	10.0	N.	4.0	43.0	19.0	58.0	35.0	16.0	18 53.5
	6		W.	N.	19 7 25.0	4.0	42.0	20.0	57.0	35.5	15.0	S.	7.0	40.5	13.5	41.5	13.0	45.0	17 11.0
15	7	α Lyræ . . .	E.	N.	18 9 9.0	38.0	8.5	38.5	8.0	41.5	11.5	S.	11.5	44.5	20.5	0.5	37.5	18.0	18 58.0
	8		W.	S.	19 7 24.0	4.5	46.5	22.5	0.5	38.0	11.0	N.	11.5	40.0	12.0	44.0	13.5	44.5	17 14.5
16	9	α Lyræ . . .	E.	S.	18 9 12.0	39.0	9.5	40.0	10.0	43.5	16.5	N.	16.0	49.5	27.0	4.5	44.0	22.5	19 2.0
	10		W.	N.	19 7 24.5	5.5	45.5	23.5	0.5	36.0	16.5	S.	10.5	44.0	17.0	47.0	16.5	48.0	17 15.0
17	11	α Lyræ . . .	E.	N.	18 9 13.5	42.0	13.5	42.0	14.0	47.0	17.0	S.	13.0	48.0	25.0	2.0	41.5	21.0	19 1.0
	12		W.	S.	19 7 27.5	9.0	51.0	26.0	6.0	41.5	17.0	N.	13.0	46.0	15.5	46.5	15.5	47.0	17 15.0
20	13	α Lyræ . . .	E.	S.	18 9 . .	47.3	18.5	49.0	20.0	53.5	25.0	N.	. .	59.5	38.5	16.5	53.5	35.5	19 14.5
	14		W.	N.	19 7 35.0	13.0	53.0	31.0	8.0	47.3	24.3	S.	20.5	52.0	27.0	56.5	27.0	58.0	17 17.0:
22	15	α Lyræ . . .	E.	N.	18 9 29.5	58.0	28.5	59.0	30.5	2.5	32.0	S.	31.0	6.0	41.5	21.5	59.0	41.0	19 21.0
	16		W.	S.	19 7 41.5	21.0	0.5	38.0	17.0	54.5	29.0	N.	29.0	59.0	29.0	2.0	31.0	1.0	17.30.5
24	17	α Lyræ . . .	E.	S.	18 9 34.0	2.0	33.0	2.5	33.5	7.0	39.5	N.	32.0	9.5	48.5	26.0	4.0	44.5	19 22.0
	18		W.	N.	19 7 46.0	24.0	5.0	42.0	19.5	58.5	35.0	S.	30.0	2.5	36.5	6.5	37.0	8.0	17 34.5
27	19	α Lyræ . . .	E.	N.	18 9 46.0	14.0	43.5	14.5	45.7	18.0	48.5	S.	46.5	20.0	58.3	36.3	13.0	53.5:	19 34.7
	20		W.	S.	19 7 56.0	35.7	17.0	54.0	33.7	10.0:	44.0	N.	42.0	11.3	42.0	15.0	44.3	16.0	17 44.3
30	21	α Lyræ . . .	E.	S.	18 9 52.7	20.0	51.5	20.5	52.0	24.5	57.3	N.	51.5	29.0	7.0	44.5	22.7	4.0	19 42.0
	22		W.	N.	19 7 59.5	36.5	17.7	55.5	33.0	12.0	50.0	S.	43.0	16.0	49.3	20.5	49.0	21.3	17 48.0
July 4	23	α Lyræ . . .	E.	N.	18 9 56.5	25.3	57.0	26.3	57.5:	30.5	0.5	S.	58.5	32.7	9.0	48.5	24.5	6.0	19 47.0
	24		W.	S.	19 8 2.0	41.3	22.5	1.5	40.0	16.5	51.0	N.	. .	18.3	51.0:	22.0	51.3	22.0	17 . .
5	25	α Lyræ . . .	E.	S.	18 10 0.0	27.5	57.0	29.0	57.0	31.5	6.0	N.	0.0	38.0	16.0	54.5	31.5	11.0	19 49.5
	26		W.	N.	19 8 4.0	42.0	22.5	0.0	37.0	17.0	54.5	S.	50.0	23.0	55.0	25.5	55.5	27.0	17 54.0
6	27	α Lyræ . . .	E.	N.	18 10 2.5	32.0	3.0	32.5	3.5	36.0	5.0	S.	4.5	39.5	16.0	55.0	30.5	13.5	19 53.0
	28		W.	S.	19 8 5.0	45.0	27.5	3.0	42.0	18.5	53.0	N.	54.0	24.0	55.5	27.5	57.0	27.5	17 57.0
8	29	α Lyræ . . .	E.	N.	18 10 4.0	34.3	5.0	34.3	6.7	38.0	9.3	S.	8.0	41.0	19.5	7.3	34.5	17.0	19 55.0
	30		W.	S.	19 8 9.0	48.5	30.5	8.0	45.0	23.0	57.0	N.	54.0	25.3	58.0	28.7	58.0	29.0	17 58.7
9	31	α Lyræ . . .	E.	N.	18 10 7.5	36.0	8.5	37.5	8.5	41.5	11.0	S.	11.5	43.0	22.5	1.5	37.5	19.5	20 0.5
	32		W.	S.	19 8 8.5	49.5	31.5	9.0	49.0	24.0	58.0	N.	59.0	28.0	1.0	32.5	2.5	33.5	18 3.0
11	33	α Lyræ . . .	E.	S.	18 10 15.5	43.0	14.0	44.0	15.0	47.0	20.5	N.	14.5	52.0	30.0	8.5	47.0	29.0	20 5.5
	34		W.	N.	19 8 15.5	53.5	35.0	12.5	50.0	30.0	7.5	S.	59.5	31.5	7.0	38.0	7.0	38.0	18 5.0
15	35	α Lyræ . . .	E.	S.	18 10 24.5	54.0	24.5	54.0	25.0	58.5	32.0	N.	28.0	3.0	45.0	20.5	58.0	38.0	20 17.5
	36		W.	N.	19 8 22.0	0.5	40.0	20.0	58.0	35.5	13.0	S.	11.0	42.0	16.0	47.0	18.0	47.0	18 14.0
16	37	α Lyræ . . .	E.	S.	18 10 29.3	57.5	27.5	57.7	29.0	1.5	35.5	N.	29.0	8.0	45.0	24.7	2.0	42.3	20 24.0
	38		W.	N.	19 8 24.0	4.0	44.0	21.3	1.0	37.7	16.0	S.	13.0	45.0	19.0	49.0	19.3	50.3	18 18.5
22	39	α Lyræ . . .	E.	N.	18 10 42.0	11.0	43.5	12.0	44.5	15.5	47.5	S.	45.5	18.5	0.0	38.5	14.0	57.0	20 35.0
	40		W.	S.	19 8 36.0	17.5	58.5	33.5	14.0	50.5	25.0	N.	24.0	53.5	26.0	58.0	27.5	57.5	18 27.0
23	41	α Lyræ . . .	E.	S.	18 10 46.3	14.5	45.0	15.0	46.3	19.5	52.5	N.	47.3	24.0	3.3	40.7	19.5	0.0	20 38.3
	42		W.	N.	19 8 39.0	17.7	58.0	36.0	12.7:	52.3	30.0	S.	25.7	59.0	32.7	3.3	33.0	3.7	18 32.7
25	43	α Lyræ . . .	E.	N.	18 10 51.7	20.3	52.0	21.3	52.5	25.0	55.3	S.	55.3	29.0	6.3	46.0	23.0	3.7	20 45.0
	44		W.	S.	19 8 43.0	23.7	5.3	42.5	22.0	58.7	32.7	N.	33.0	3.0	34.7	7.3	35.7	8.0	18 37.0
27	45	α Lyræ . . .	E.	S.	18 10 53.7	21.5	52.3	22.0	53.3	26.3	59.0	N.	53.3	32.0	9.5	47.0	26.5	4.5	20 44.3
	46		W.	N.	19 8 44.5	23.5	3.7	41.5	20.0	59.0	35.5	S.	29.5	3.0	36.0	7.0	36.3	7.3	18 35.0
28	47	α Lyræ . . .	E.	N.	18 10 53.0	. .	54.0	23.0	55.3	27.0	57.0	S.	. .	32.0	10.5	48.5	26.0	7.0	20 47.5
	48		W.	S.	19 8 45.5	24.0	6.0	42.5	22.0	59.5	33.0	N.	33.7	4.0	35.7	8.0	37.0:	9.0	18 38.3
30	49	α Lyræ . . .	E.	S.	18 11 2.7	30.5	1.3	31.0	2.3	35.7	9.3	N.	1.5	39.7	18.5	56.7	34.7	15.5	20 54.0
	50		W.	N.	19 8 51.0	40.0	10.5	47.7	26.5	6.0	42.7	S.	38.5	12.0	45.0	16.3	46.3	16.5	18 45.0

No. for reference.	LEVEL READINGS.				Mean, ½ (S.–N.)	Correction for level.	Apparent declination.	Reduction to 1860.0.	Seconds of mean declination, 1860.0.	Weight.	Observer.	REMARKS.
	Before reversal.		After reversal.									
	N.	S.	N.	S.								
	d.	d.	d.	d.	d.	″	° ′ ″	″	° ′ ″			
1	52.45	48.18	51.18	48.28	— 1.79					2	Ha.	
2	49.40	46.95	49.32	46.08	1.42	— 1.59	38 39 36.11	— 15.59	38 39 20.52	2		
3	56.50	54.10	56.12	53.18	1.33					2		Very unsteady.
4	56.72	53.30	55.75	53.30	1.47	1.38	37.35	16.99	20.36	2		
5	58.82	54.35	57.98	54.52	1.98					3		
6	58.55	54.98	58.60	54.52	1.91	1.92	36.95	17.31	19.64	2		
7	51.10	48.20	51.30	48.15	1.51					4		
8	52.00	48.78	51.65	48.70	1.54	1.50	38.44	18.01	20.43	4		
9	46.90	43.38	46.88	43.55	1.71					3½		
10	47.58	44.48	47.95	43.82	1.81	1.72	38.86	18.36	20.50	3		
11	46.12	43.72	47.75	44.35	1.45					3		
12	48.80	45.50	48.88	46.10	1.52	1.46	38.76	18.71	20.05	3		
13	52.02	48.62	52.25	49.92	1.43					2	N.	Wire A rejected.
14	53.52	51.30	54.30	51.30	1.30	1.35	39.65	19.66	19 99	2		
15	47.50	45.08	48.32	45.38	1.34					3	Ha.	
16	49.00	45.52	48.70	45.85	1.58	1.44	40.45	20.23	20.22	2		
17	39.48	37.65	39.65	38.52	0.74					3		
18	40.80	39.50	41.62	39.75	0.79	0.75	40.98	20.79	20.19	3		
19	48.12	47.78	49.92	48.18	0.52					2	N.	
20	53.12	50.78	53.00	52.28	0.76	0.63	41.65	21.72	19.93	2		
21	49.88	47.38	49.95	47.82	1.16					3		
22	50.52	48.45	50.75	48.40	1.10	1.11	43.13	22.76	20.37	3		
23	50.60	49.32	51.55	49.38	0.86					1		
24	52.58	49.75	51.95	51.22	0.89	0.86	43.90	24.01	19.89	2		
25	48.98	47.28	48.78	48.35	0.53					2	Ha.	
26	49.65	48.95	50.05	48.92	0.46	0.49	44.77	24.29	20.48	2		
27	45.65	43.82	46.02	44.00	0.96					4		
28	46.48	44.20	46.05	44.75	0.89	0.91	44.72	24.55	20.17	4		
29	47.18	46.10	47.82	46.42	0.62					3	N.	
30	48.95	47.00	48.50	47.58	0.72	0.66	45.06	25.08	19.98	3		
31	48.82	48.15	49.42	48.15	0.48					3	Ha.	
32	50.05	48.30	50.02	48.82	0.74	0.60	45.24	25.36	19.88	2		
33	45.58	44.55	46.10	45.05	0.52					3		
34	46.92	46.02	47.10	46.12	0.47	0.49	46.62	25.98	20.64	2		
35	59.70	56.65	59.98	57.68	1.34					2		
36	60.52	59.08	61.60	59.35	0.92	1.11	47.33	27.29	20.04	1		
37	59.32	55.90	59.02	56.90	1.38					3	N.	
38	59.72	57.98	61.05	57.75	1.26	1.30	47.51	27.58	19.93	2		
39	68.50	66.68	69.82	66.65	1.25					1	Ha.	
40	71.78	68.00	71.68	68.92	1.64	1.44	49.03	29.08	19.95	1		
41	64.15	62.10	64.12	62.68	0.87					4	N.	Clock fast 12m. 11s.3.
42	65.80	64.60	66.38	64.68	0.72	0.78	49.62	29.34	20.28	4		Azimuth error 4s.3.
43	66.60	65.90	67.12	66.05	0.44					3		
44	67.92	67.10	67.92	67.42	0.33	0.38	50.19	29.91	20.28	4		
45	59.12	57.62	59.05	58.02	0.63					3		
46	59.25	58.35	59.38	58.40	0.47	0.54	50.84	30.51	20.33	4		
47	54.68	54.58	55.20	54.68	0.16					4		
48	56.62	55.82	56.65	56.15	0.32	0.24	51.05	30.81	20.24	3		
49	51.18	50.18	51.40	50.52	0.47					4		
50	52.42	51.98	52.85	51.88	— 0.35	— 0.40	38 39 51.43	— 31.34	38 39 20.09	3		

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES. A.	B.	C.	D.	E.	F.	G.	Telescope	TIMES OF TRANSIT OVER WIRES. G.	F.	E.	D.	C.	B.	A.
1864.					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
Aug. 1	1		E.	N.	18 11 9.3	39.0	10.0	39.3	11.5	43.3	14.0	S.	15.0	49.3	27.5	6.3	42.0:	25.0	21 5.3
	2	α Lyræ . . .	W.	S.	19 8 56.5	37.5	19.0	56.5	35.0	13:0	46.7	N.	49.3	19.0	50.7	22.7	52.0	23.0	18 52.5
3	3		E.	S.	18 11 11.0	39.0	9.7	39.0	10.7	44.3	17.3	N.	11.0	49.5	27.7	6.0	43.5	24.5	21 3.5
	4	α Lyræ . . .	W.	N.	19 8 57.7:	36.0	17.0	55.0	32.7	10.5:	49.5	S.	44.0	17.7	51.5	22.0	52.0	22.7	18 51.0
5	5		E.	N.	18 11 15.7	45.5	16.5	45.7	17.3	49.5	20.0	S.	22.0	56.5	33.0	12.0	49.5	30.5	21 11.7
	6	α Lyræ . . .	W.	S.	19 9 0.5	41.5	22.7	0.3	39.7	17.0	50.5	N.	52.7	22.5	54.5	26.5	55.7	27.5	18 57.0
9	7		E.	S.	18 11 25.0	53.0	24.0	53.5	25.0	58.0	30.0	N.	26.0	2.0	42.5	20.0	59.0	38.5	21 17.0
	8	α Lyræ . . .	W.	N.	19 9 9.5	49.0	28.5	6.0	44.0	22.5	2.5	S.	55.0	28.5	3.0	33.0	3.0	33.5	19 0.5
10	9		E.	N.	18 11 27.0	56.5	28.0	58.5	28.5	1.0	30.5	S.	33.5	6.5	44.5	24.0	0.0	42.0	21 24.0
	10	α Lyræ . . .	W.	S.	19 9 10.0	50.5	34.0	9.5	49.0	26.5	0.5	N.	1.0	32.5	5.0	36.5	6.0	36.0	19 7.0
12	11		E.	S.	18 11 37.5	6.5	36.5	6.0	37.0	10.5	44.5	N.	38.0	14.0	53.5	33.0	10.0	51.5	21 29.5
	12	α Lyræ . . .	W.	N.	19 9 . .	0.5	41.5	19.0	57.0	36.5	14.5	S.	7.0	38.5	14.5	45.0	13.5	46.0	19 13.0
15	13		E.	N.	18 11 44.5	14.5	45.5	14.5	47.0	19.5	49.0	S.	50.0	23.0	0.0	40.0	17.0	59.0	21 40.0
	14	α Lyræ . . .	W.	S.	19 9 . .	8.0	51.0	28.5	5.5	45.0	17.0	N.	18.0	49.0	22.0	52.0	19.5	53.5	19 23.5
23	15		E.	S.	18 12 3.0	30.0	1.5	30.0	1.3	35.0	8.5	N.	4.0	42.0	21.0	0.0	40.5	18.5	21 57.0
	16	α Lyræ . . .	W.	N.	19 9 41.0	19.5	0.5	36.5	16.0	56.0	31.5	S.	31.0	4.0	37.0	9.0	38.5	10.0	19 37.5
30	17		E.	S.	18 12 . .	. .	27.5	57.5	28.0	3.0	35.7	N.	30.7	8.0	47.0	26.0	3.5	44.0	22 23.3
	18	α Lyræ . . .	W.	N.	19 10 3.0	43.0	24.7	2.5	39.5	19.5	57.5	S.	53.3:	26.3	0.0	32.0	1.7	32.5	20 0.0
31	19		E.	N.	18 12 31.5	2.0	35.0	1.0	34.0	5.0	36.0	S.	36.0	11.0	48.0	25.5	4.0	46.0	22 27.0
	20	α Lyræ . . .	W.	S.	19 10 10.5	53.0	33.0	9.5	49.0	26.0	1.0	N.	59.5	. .	2.0	31.0	2.0	33.5	20 4.0
Sept. 2	21		E.	S.	18 12 39.0	8.5	40.0	9.0	41.0	13.5	44.0	N.	45.0	20.0	58.5	35.0	13.0	55.5	22 36.5
	22	α Lyræ . . .	W.	N.	19 10 . .	55.0	37.0	14.5	54.0	31.5	7.0	S.	6.5	37.0	9.5	40.5	11.0	41.0	20 11.0
10	23		E.	S.	18 12 55.0	23.0	54.3	23.0	55.3	27.5	2.0:	N.	56.5	35.0	13.5	52.5	29.5	10.0	22 49.0
	24	α Lyræ . . .	W.	N.	19 10 29.5	8.0	48.3	26.7	5.5	43.0	22.0	S.	16.0	51.0	23.0	55.5	24.7	56.0	20 23.5
12	25		E.	N.	21 3 55.0	40.0	28.5	16.5	5.0	59.0	51.5	S.	46.5	11.5	1.5	20.0	15.0	. .	24 . .
	26	σ Cygni . .	W.	S.	21 28 . .	. .	55.0	34.0	58.0	47.0	11.0	N.	8.0	56.0	52.5	46.0	30.0	19.5	49 3.0
13	27		E.	N.	18 13 2.0	30.7	2.7	32.5	4.3	37.0	6.7	S.	9.0	42.5	21.0	59.3	36.3	18.5	22 59.5
	28	α Lyræ . . .	W.	S.	19 10 36.0	16.7	58.7	36.0	15.0	52.5	27.3	N.	28.7	58.0	31.0	2.7	32.3	3.7	20 33.0
17	29		E	S.	18 13 15.0	43.3	13.5	44.0	15.0	48.3	21.5	N.	15.3	55.0:	33.0	12.0	49.0	30.7	23 9.0
	30	α Lyræ . . .	W	N.	19 10 47.0:	26.5:	7.0:	45.7	24.5	2.5	40.0	S.	36.0	10.0	42.7	15.0	45.3	16.0	20 43.0
20	31		E.	N.	18 13 21.7	51.0	22.3	51.7	22.7	56.0	25.3	S.	30.0	3.0:	41.0:	20.7	57.5	40.3	23 20.0
	32	α Lyræ . . .	W.	S.	19 10 53.3	33.7	16.7	54.0	33.0	11.0	44.5	N.	47.0	17.0	50.7	21.7	51.5	22.5	20 52.7
	33		E.	N.	20 18 23.8	40.7	58.6	16.0	33.5	52.4	9.2	S.	45.5	2.3	21.9	41.0	59.0	18.1	23 38.5
	34	61^1 Cygni . .	W.	S.	22 7 37.8	56.5	16.4	34.3	53.2	12.3	29.0:	N.	. .	. .	40.9	59.4	. .	34.0	12 52.0
	35		E.	S.	21 5 . .	. .	53.0	37.5	31.5	23.5	22.0:	N.	15.0	49.0	44.0	14.0	5.0	. .	21 26 .
	36	σ Cygni . .	W.	N.	21 32 . .	. .	. .	36.0	3.0	55.0	33.0	S.	23.0	23.0	16.5	8.0	54.5	. .	21 47 .
27	37		E.	S.	18 13 48.7	16.5	47.3	16.3	49.3	21.5	55.5	N.	48.0	26.7	4.5	44.0	21.3	2.5	23 40.7
	38	α Lyræ . . .	W.	N.	19 11 21.5	58.7	39.3	17.0	56.7	35.0	13.0	S.	6.7	41.0	13.7	46.3	15.0	46.0	21 14.0
Oct. 7	39		E.	N.	18 14 5.0	35.0	6.0	36.0	8.5	40.3	9.7	S.	14.0	48.3	26.0	5.3	42.3	24.7	24 5.5
	40	α Lyræ . . .	W.	S.	19 11 37.5	18.0	0.0	37.0	16.3	54.5	28.7	N.	. .	0.3	32.0	5.0	33.5	5.0	21 34.7
10	41		E.	S.	18 14 16.0	44.0	14.7	44.3	16.5	49.0	23.3	N.	14.5	52.5	31.0	10.0	47.7	28.0	24 6.5
	42	α Lyræ . . .	W.	N.	19 11 49.0	28.0:	8.5	45.7	25.7	3.3	42.5	S.	35.7	10.7	42.7	15.0	14.5	15.3	21 42.7
11	43		E.	N.	18 14 15.0	44.3	16.5	45.7	17.5	49.3	19.3	S.	23.0	57.0	34.3	14.0	51.3	32.5	24 14.0
	44	α Lyræ . . .	W.	S.	19 11 50.7	31.7	13.0	50.7	29.7	8.0	41.5	N.	43.7	13.5	46.7	18.0	47.5	19.0	21 48.7
	45		E.	S.	20 19 19.5	36.0	52.5	10.5	29.0	47.0	5.5	N.	41.0	59.5	19.0	39.0	56.5	16.0	24 34.0
	46	61^1 Cygni . .	W.	N.	22 8 31.0	48.0	9.0	26.5	46.5	4.5	24.5	S.	0.0	18.5	37.0	54.0	11.5	30.0	13 47.0
13	47		E.	S.	18 14 21.7	49.7	20.7	49.7	22.5	54.3	29.0	N.	23.0	3.0	41.5	. .	58.0	38.5	24 17.0
	48	α Lyræ . . .	W.	N.	19 11 56.5	35.3	15.7	52.7	32.5	10.3	49.0	S.	46.7	21.0	53.3	24.7	54.0	24.7	21 52.7
14	49		E.	N.	18 14 24.3	53.7	24.7	54.5	26.3	58.7	28.7	S.	31.7	5.0	43.0	22.0	59.3	41.5	24 21.7
	50	α Lyræ . . .	W.	S.	19 11 59.7	41.3	22.7	0.0	39.3	16.3	51.3	N.	52.0	21.3	54.5	26.0	55.7	27.0	21 55.7

No. for reference.	LEVEL READINGS. Before reversal. N.	Before reversal. S.	After reversal. N.	After reversal. S.	Mean, ½ (S.–N.)	Correction for level.	Apparent declination.	Reduction to 1860.0.	Seconds of mean declination, 1860.0.	Weight.	Observer.	REMARKS.
	d.	d.	d.	d.	d.	"	° ′ "	"	° ′ "			
1	49.80	48.42	50.05	48.68	— 0.69	— 0.71	38 39 51.88	— 31.80	38 39 20.08	4	N.	
2	51.72	49.95	51.70	50.52	0.74					4		
3	59.95	58.78	59.95	59.08	0.51	0.49	52.56	32.20	20.36	3		Clock fast 12m. 38s.6.
4	60.32	59.22	60.28	59.42	0.49					3		After this observation adjusted azimuth.
5	57.75	56.50	58.78	56.65	0.84	0.80	52.91	32.62	20.29	5		Clock fast 12m. 44s.4.
6	59.32	57.82	59.55	57.90	0.79					4		Azimuth — 1s.4.
7	53.05	53.00	53.98	53.18	0.21	0.36	54.01	33.60	20.41	3	Ha.	
8	54.92	53.90	55.35	54.30	0.52					4		
9	46.58	45.88	47.38	46.65	0.36	0.37	54.13	33.83	20.30	3		
10	48.35	47.32	48.48	47.92	— 0.40					2		
11	44.90	45.35	45.28	45.95	+ 0.28	— 0.25	54.31	34.32	19.99	4		
12	46.38	46.62	46.40	47.05	0.22					4		
13	54.75	54.80	54.85	56.10	0.32	+ 0.24	54.92	34.90	20.02	3		
14	55.90	56.65	56.52	56.45	0.17					2		
15	53.92	55.40	54.88	56.58	0.80	+ 0.56	57.06	36.35	20.71	2		
16	57.52	58.95	59.20	59.18	+ 0.35					2		
17	63.28	63.35	64.02	63.85	— 0.02	— 0.13	57.74	37.41	20.33	3	N.	Cloudy.
18	66.00	66.08	66.98	65.92	— 0.24					3		
19	62.58	63.05	63.75	64.15	+ 0.22	0.00	57.21	37.52	19.69	2	Ha.	
20	67.18	66.40	67.72	67.62	— 0.22					2		
21	61.05	62.85	63.10	62.75	+ 0.36	+ 0.24	58.31	37.75	20.56	2		
22	64.75	64.38	64.90	65.75	0.12					3		
23	62.98	63.02	63.28	63.48	0.06	0.06	58.93	38.82	20.11	3	N.	
24	63.85	64.32	64.20	63.95	0.06					3		
25	62.88	65.65	63.48	65.40	1.17	1.05	38 50 5.07	90.40	34.67	3	Ha.	Only one set of level readings between the reversals. * did not cross wires A and B in moving south of the zenith.
26	63.48	65.40	63.60	65.52	0.96					3		
27	58.52	59.92	59.65	60.32	0.52	0.42	38 39 59.20	38.97	20.23	4	N.	
28	61.30	61.58	61.18	62.25	0.34					4		
29	55.48	55.72	55.98	56.28	0.14	0.16	59.36	39.21	20.15	4		
30	57.88	58.58	58.68	58.70	0.18					2–3		
31	58.48	59.18	58.82	59.45	0.33	0.20	59.72	39.49	20.23	4		
32	61.60	61.45	61.72	62.18	0.08					3		
33	62.78	63.60	63.60	63.15	0.09	0.09	38 5 31.69	89.20	2.49			
34	64.90	64.70	64.55	65.10	0.09							
35	64.42	64.05	64.05	64.95	0.13	0.15	38 50 6.69	92.00	34.69			
36	64.05	65.00	64.90	64.68	0.18							
37	55.72	55.81	55.92	56.35	+ 0.13	+ 0.04	38 39 59.85	39.61	20.24	4		
38	58.22	58.30	58.70	58.40	— 0.06					3		
39	56.65	56.48	56.45	57.25	+ 0.16	— 0.24	59.93	39.73	20.20	4		
40	59.40	58.58	60.28	58.52	— 0.64					3		
41	46.60	49.58	46.78	49.20	+ 1.35	+ 1.20	60.04	39.51	20.53	4		
42	48.45	49.88	47.78	50.70	1.09					3		
43	42.32	45.30	42.18	45.28	1.52	1.51	59.61	39.43	20.18	4		
44	44.18	47.12	44.52	47.72	1.54					4		
45	46.10	48.85	46.45	49.42	1.43	1.50	38 5 34.76	92.32	2.44	3	Ha.	
46	50.02	53.78	51.08	53.80	1.62					3		
47	48.25	50.10	48.25	51.02	1.16	1.15	38 39 59.46	39.29	20.17	3	N.	
48	50.90	53.42	51.55	53.65	1.16					3		
49	46.60	49.42	46.00	48.98	1.45	+ 1.39	38 39 59.58	— 39.24	38 39 20.32	4		
50	47.52	50.25	47.85	50.62	+ 1.38					4		

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES. A.	B.	C.	D.	E.	F.	G.	Telescope.	TIMES OF TRANSIT OVER WIRES. G.	F.	E.	D.	C.	B.	A.
1864.					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
Oct. 17	1	α Lyræ . . .	E.	N.	18 14 36.0	5.5	37.0	6.3	38.7	11.0	40.7	S.	44.0	17.5	56.3	34.7	12.0	53.7	24 34.5
	2		W.	S.	19 12 12.3	52.7	34.5	11.0	51.0	29.0	2.7	N.	3.7	33.5	5.5	37.0	6.0	38.0	22 7.7
18	3	α Lyræ . . .	E.	S.	18 14 . .	11.7	42.5	11.7	43.7	16.0	51.0	N.	41.5	21.0	58.5	38.0	15.5	56.3	24 34.7
	4		W.	N.	19 12 16.5	56.3	37.0	14.3	54.0	32.3	11.0	S.	4.3	39.3	11.0	43.7	13.0	43.7	22 11.5
19	5	α Lyræ . . .	E.	S.	18 14 47.7	15.3	45.5	15.3	47.5	20.0	. .	N.	48.3	27.0	4.5	44.0	22.3	2.5	24 40.7
	6		W.	N.	19 12 21.0	59.3	41.5	18.0	58.0	36.0	14.0	S.	10.5	44.7	17.3	49.5	18.7	49.5	22 17.5
21	7	α Lyræ . . .	E.	N.	18 14 51.3	20.7	52.0	21.3	53.7	25.3	55.5	S.	0.7	34.0	11.7	51.3	28.0	10.0	24 50.5
	8		W.	S.	19 12 28.7	9.3	52.0	29.0	8.0	45.5	20.0	N.	21.7	51.7	24.0	55.7	25.7	57.3:	22 26.5
25	9	α Lyræ . . .	E.	S.	18 15 10.0	37.0	8.5	38.0	9.0	42.5	15.5	N.	9.0	48.0	26.0	4.0	42.5	22.5	25 0.5
	10		W.	N.	19 12 46.5	26.0	6.5	44.5	23.5	1.5	39.5	S.	35.0	9.5	41.0	13.5	42.5	14.0	22 40.5
28	11	α Lyræ . . .	E.	N.	18 15 19.0	47.5	19.0	49.5	20.5	52.0	23.0	S.	25.0	59.0	37.5	16.0	53.0	35.0	25 16.0
	12		W.	S.	19 12 . .	37.0	18.0	55.5	33.5	12.5	45.0	N.	49.0	18.5	51.0	23.0	52.0	23.0	22 52.5
Nov. 1	13	α Lyræ . . .	E.	S.	18 15 33.5	0.0	32.0	1.0	31.5	5.0	40.0	N.	33.0	11.0	49.0	29.0	5.5	46.5	25 26.0
	14		W.	N.	19 13 13.0	51.0	31.5	8.5	47.5	26.0	5.0	S.	0.0	34.0	6.0	37.5	7.0	37.5	23 4.5
5	15	α Lyræ . . .	E.	N.	18 15 36.5	5.5	36.0	5.5	38.0	8.5	40.0	S.	43.0	16.0	54.0	32.5	10.0	51.0	25 33.5
	16		W.	S.	19 13 16.0	56.5	37.5	15.0	54.5	32.5	6.0	N.	8.5	39.5	10.5	42.5	12.0	43.5	23 12.5
10	17	α Lyræ . . .	E.	S.	18 15 40.5	8.0	39.0	7.5	40.5	12.0	47.0	N.	40.0	18.0	56.0	35.5	12.0	54.0	25 32.5
	18		W.	N.	19 13 19.5	58.0	39.0	15.5	55.0	32.5	11.0	S.	5.0	39.0	11.0	43.5	12.0	. .	23 11.5
11	19	α Lyræ . . .	E.	N.	18 15 38.5	8.5	40.0	9.0	41.0	13.5	43.5	S.	46.5	20.0	58.5	36.5	14.0	56.5	25 36.5
	20		W.	S.	19 13 21.5	0.5	42.0	19.0	58.0	36.0	10.0	N.	11.5	42.5	14.0	46.0	15.0	46.5	23 16.0
14	21	α Lyræ . . .	E.	S.	18 15 51.0	19.5	49.5	19.0	50.5	23.0	56.5	N.	51.0	30.0	8.0	46.5	23.5	4.5	25 43.0
	22		W.	N.	19 13 34.5	12.0	53.0	30.0	10.0	48.5	26.0	S.	. .	55.0	27.0	58.5	28.5	59.5	23 26.5
23	23	α Lyræ . . .	E.	N.	18 16 1.3	30.3	1.3	31.5	2.5	35.0	4.5	S.	6.5	39.0	17.0	55.7	33.5	14.5	25 54.0:
	24		W.	S.	19 13 53.3	33.3	15.0	52.0	31.0	9.0	43.0	N.	42.5	12.0	44.5	16.3	45.5	17.0	23 46.5
24	25	α Lyræ . . .	E.	S.	18 16 4.7	32.5	3.3	33.0	4.5	37.3	9.5	N.	4.5:	41.0	20.3	59.3	37.0:	17.7	25 55.7
	26		W.	N.	19 13 58.0	36.8	16.7:	54.5	33.5	12.0	49.0	S.	43.0	16.7	49.0	20.0	49.0	21.0	23 . .
28	27	α Lyræ . . .	E.	N.	18 16 8.7	38.0	9.3	38.5	10.0	42.5	11.7	S.	16.5	50.0:	28.0	7.3	44.0:	26.0	26 6.3
	28		W.	S.	19 13 57.7	38.3	20.5	57.0	36.0	14.0	47.0	N.	50.0	19.0	. .	24.3	53.7	23.7	23 54.0
29	29	α Lyræ . . .	E.	S.	18 16 14.0	41.0	12.5	42.5	13.0	46.5	19.5	N.	11.5	49.0	28.0	6.5	44.0	24.0	26 2.5
	30		W.	N.	19 14 0.5	39.0	21.0	58.0	36.0	15.5	53.0	S.	43.0	17.0	50.0	22.0	50.5	21.0	23 49.5
30	31	α Lyræ . . .	E.	N.	18 16 15.0	44.0	15.7	44.7	16.7	48.7	18.3	S.	22.5	56.0	34.0	13.5	50.3	32.0	26 12.0
	32		W.	S.	19 13 59.5	40.5	21.5:	0.0	38.7	16.5	50.0	N.	53.3	22.5	55.5	27.0	56.5	27.5	23 57.0
Dec. 12	33	α Lyræ . . .	E.	N.	18 16 41.3	10.7	42.0	11.3	43.0	15.3	45.5	S.	45.5	19.0	55.5	34.0	12.0	53.5	26 33.7
	34		W.	S.	19 14 36.7	17.0	59.0	36.5	15.0	52.5	26.0	N.	25.3	55.0	27.0	58.7	28.0	59.0	24 28.5:
23	35	α Lyræ . . .	E.	N.	18 16 53.0	21.5	53.5	22.0	53.0	25.3	55.5	S.	55.5	29.3	6.0	45.5	21.5	2.5	26 43.3
	36		W.	S.	19 15 0.0	40.0	21.0	58.0	35.5	14.3	47.5	N.	46.3	16.7	48.5	20.3	49.0	20.7	24 49.5
29	37	α Lyræ . . .	E.	S.	18 17 9.0	36.7	7.5	37.0	8.3	41.0	14.5	N.	6.5	43.5	23.5	1.5	38.5	18.5	26 56.7
	38		W	N.	19 15 17.5	56.0	36.0	13.5	51.0	30.0	7.7	S.	59.0	31.5:	5.7	37.0	6.0	36.5	25 4.0

No. for reference.	LEVEL READINGS. Before reversal. N.	Before reversal. S.	After reversal. N.	After reversal. S.	Mean, ¼ (S.–N.)	Correction for level.	Apparent declination.	Reduction to 1860.0.	Seconds of mean declination, 1860.0.	Weight.	Observer.	REMARKS.
	d.	d.	d.	d.	d.	"	° " '	"	° " '			
1	44.48	45.55	44.12	45.58	+ 0.63					3	N.	
2	45.68	47.08	46.12	47.68	0.74	+ 0.68	38 39 59.24	— 39.13	38 39 20.11	3		
3	43.75	46.05	43.85	45.42	0.97					3		
4	44.60	46.22	44.68	46.72	0.91	0.93	59.38	39.09	20.29	4		
5	46.22	48.15	46.30	48.50	1.03					4		
6	47.88	49.78	48.55	50.35	0.92	0.96	59.32	39.03	20.29	4		
7	42.38	45.18	45.32	48.70	1.56					3		
8	42.40	45.85	46.22	49.18	1.58	1.55	58.95	38.85	20.10	4		
9	43.88	48.08	44.10	47.88	2.00					.5	Ha.	
10	45.18	48.75	45.98	49.42	1.75	1.85	58.62	38.30	20.32	5		
11	46.80	49.90	47.85	50.18	1.36					3		
12	49.12	50.90	49.32	51.68	1.04	1.18	58.43	37.92	20.51	3		
13	50.70	53.85	51.05	54.02	1.53					1		
14	52.18	55.25	52.52	55.52	1.52	1.50	57.79	37.52	20.27	2		
15	57.70	60.85	58.18	61.60	1.64					3		
16	59.82	62.58	60.02	63.10	+ 1.46	+ 1.53	57.41	36.74	20.67	3		
17	44.80	43.60	45.00	43.70	— 0.62					4		
18	45.00	44.70	45.48	45.18	— 0.15	— 0.38	56.35	35.89	20.46	4		
19	53.18	53.12	53.15	53.55	+ 0.04					3		
20	52.80	54.12	53.55	53.45	+ 0.30	+ 0.17	56.08	35.73	20.35	3		
21	59.45	62.60	61.30	63.40	1.56					1		
22	65.10	67.22	65.45	67.58	1.06	0.29	55.97	35.26	20.71	3		
23	53.45	61.80	54.30	60.68	3.68					3	N.	
24	54.32	59.10	54.05	59.32	2.51	3.05	53.82	33.19	20.63	3		
25	50.70	56.75	50.68	56.75	3.03					3		
26	50.80	56.75	50.88	56.55	2.90	2.93	53.34	32.96	20.38	3		
27	44.05	45.00	43.20	44.28	0.51					3		
28	41.58	42.88	41.60	42.45	+ 0.54	+ 0.52	52.61	32.12	20.49	3		
29	31.48	30.42	31.40	29.28	— 0.80					3½	Ha	
30	31.15	29.28	31.32	28.72	1.12	— 0.94	52.39	31.90	20.49	3		
31	33.22	29.12	32.52	28.35	2.07					3	N.	
32	45.35	43.08	45.40	43.12	1.14	1.57	52.08	31.65	20.43	3		
33	50.10	50.18	50.65	49.95	0.15					2		
34	51.10	50.32	51.12	50.45	— 0.72	— 0.43	49.05	28.34	20.71	3		
35	52.50	58.50	54.40	56.80	+ 2.10					2		
36	53.30	54.90	52.80	55.40	+ 1.05	+ 1.56	45.56	24.96	20.60	2		
37	48.68	47.28	48.02	47.10	— 0.58					2		
38	46.30	44.65	46.05	44.50	— 0.80	— 0.68	38 39 43.04	— 23.23	38 39 19.81	1		

OBSERVATIONS

WITH THE

EQUATORIAL,

1864.

OBSERVATIONS

WITH THE

EQUATORIAL.

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ *a*	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Jan. 5	Oeltzen N. 8459 .	56.4	8.4	20.7	2 51 8.50	1 46.765	+1 53.33	— 53.141	Corr. Chron. + 4 37.87
	(*9)	24.3	36.2	48.3	52 36.26	4 37.060			*a* *δ*
F.	Egeria	49.7	1.7	14.1	53 1.83	5 39.905			h. m. s. ° ′ ″
									Oeltzen N. 8459, 7 49 56.30 +46 58 55.06
	Oeltzen N. 8459 .	21.1	33.0	45.1	55 33.07	1 46.791	1 53.63	53.165	
	(*9)	. .	1.2	13.3	57 1.27	4 37.189			Egeria—Oeltzen N. 8459,
	Egeria	14.8	36.6	38.7	57 36.70	5 39.955			Δ *a* Δ *δ*
									h. m. s. m. s. ′ ″
	Oeltzen N. 8459 .	8.9	21.1	33.5	3 0 21.17	1 47.079	1 53.20	53.284	Sid. T. 3 41 41.73 + 1 51.46 —13 24.06
	Egeria	2.5	14.5	26.1	2 14.37	5 40.362			Δ ρ — .02 — .24
									p — .40 — 1.08
	Oeltzen N. 8459 .	36.9	48.8	1.1	3 48.93	1 47.148	1 53.34	53.173	
	Egeria	30.5	42.1	54.2	5 42.27	5 40.320			
	Oeltzen N. 8459 .	5.5	17.6	29.6	7 17.57	1 47.320	1 52.90	53.081	
	Egeria	58.6	10.2	22.6	9 10.47	5 40.400			
	Oeltzen N. 8459 .	44.6	26.8	38.7	12 26.70	1 47.422	1 52.83	52.920	
	Egeria	7.7	19.5	31.4	14 19.53	5 40.341			
	Oeltzen N. 8459 .	34.2	46.2	58.4	15 46.27	1 47.599	1 52.26	52.917	
	Egeria	26.5	38.5	50.6	17 38.53	5 40.515			
	Oeltzen N. 8459 .	10.3	22.4	34.6	19 22.43	1 47.512	1 52.24	52.919	
	Egeria	2.6	14.7	26.7	21 14.67	5 40.430			
	Oeltzen N. 8459 .	7.0	18.8	31.2	32 19.00	1 48.160	1 51.67	52.366	
	Egeria	58.6	10.6	22.8	34 10.67	5 40.525			
	Oeltzen N. 8459 .	0.5	12.9	25.1	36 12.83	1 48.202	1 51.50	52.637	
	Egeria	52.3	4.5	16.2	38 4.33	5 40.838			
	Oeltzen N. 8459 .	23.1	35.3	47.4	39 35.27	1 48.225	1 51.20	52.404	
	Egeria	14.2	26.6	38.6	41 26.47	5 40.628			
	Oeltzen N. 8459 .	46.5	58.6	10.9	42 58.66	1 48.430	1 50.84	52.276	
	Egeria	37.6	49.5	1.4	44 49.50	5 40.705			
	Oeltzen N. 8459 .	53.7	5.8	18.2	49 5.90	1 48.690	1 50.83	52.001	
	Egeria	44.6	56.8	8.8	50 56.73	5 40.690			
	Oeltzen N. 8459 .	2.7	14.8	26.7	53 14.73	1 48.552	1 50.74	51.909	
	Egeria	53.4	5.4	17.6	55 5.47	5 40.460			
	Oeltzen N. 8459 .	9.8	21.9	34.2	58 21.97	1 48.830	1 50.26	52.079	
	Egeria	0.2	12.2	24.3	4 0 12.23	5 40.908			
	Oeltzen N. 8459 .	54.5	6.7	18.7	2 6.63	1 48.920	1 50.17	51.779	
	Egeria	44.9	56.5	9.0	3 56.80	5 40.698			
	Oeltzen N. 8459 .	21.8	34.2	46.2	5 34.07	1 48.935	1 49.73	51.791	
	Egeria	12.0	23.6	35.8	7 23.80	5 40.725			
	Oeltzen N. 8459 .	48.5	0.2	12.5	9 0.40	1 49.219	1 49.67	51.452	
	Egeria	38.3	50.1	1.8	10 50.07	5 40.670			
	Oeltzen N. 8459 .	57.8	9.8	21.9	13 9.83	1 49.060	1 49.60	51.630	
	Egeria	47.4	59.3	11.6	14 59.43	5 40.689			
	Oeltzen N. 8459 .	22.0	34.0	46.0	16 34.00	1 48.989	+1 49.20	— 51.544	
	Egeria	11.0	23.4	35.2	18 23.20	5 40.542			

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ *a*	Δ mic.	REMARKS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Jan. 6	Oeltzen N. 8459 .	57.8	10.0	22.4	3 15 10.07	1 40.400	+0 38.66	— 24.476	Corr. Chron. + 4 39.61
	Egeria	36.4	48.6	1.2	15 48.73	3 34.960			*a* *δ*
F.									h. m. s. ° ′ ″
	Oeltzen N. 8459 .	14.5	27.4	39.6	20 27.17	1 40.480	0 38.63	24.008	Oeltzen N. 8459, 7 49 56.33 +46 58 55.08
	Egeria	53.6	5.6	18.2	21 5.80	3 34.572			
									Egeria—Oeltzen N. 8459,
	Oeltzen N. 8459 .	54.9	6.8	18.9	23 6.87	1 40.469	0 37.90	24.067	Δ *a* Δ *δ*
	Egeria	32.7	44.8	56.8	23 44.77	3 34.620			h. m. s. m. s. ′ ″
									Sid. T. 3 45 8.31 + 0 37.44 — 6 5.20
	Oeltzen N. 8459 .	14.6	27.1	38.9	28 26.87	1 40.560	0 38.13	23.976	Δ *ρ* — .01 — .10
	Egeria	53.1	4.7	17.2	29 5.00	3 34.620			*p* — .40 — .87
	Oeltzen N. 8459 .	4.2	15.7	27.9	31 15.93	1 40.675	0 37.94	24.110	
	Egeria	42.0	53.7	5.9	31 53.87	3 34.869			
	Oeltzen N. 8459 .	32.3	44.7	56.4	33 44.47	1 40.829	0 37.96	24.019	
	Egeria	10.2	22.5	34.6	34 22.43	3 34.932			
	Oeltzen N. 8459 .	41.6	54.5	6.7	38 54.27	1 40.720	0 37.53	24.106	
	Egeria	19.9	31.7	43.8	39 31.80	3 34.910			
	Oeltzen N. 8459 .	10.6	22.8	35.2	42 22.87	1 40.845	0 37.10	23.911	
	Egeria	47.9	0.0	12.0	42 59.97	3 34.840			
	Oeltzen N. 8459 .	32.4	44.2	56.5	53 44.37	1 41.210	0 37.03	23.398	
	Egeria	9.0	21.0	33.2	54 21.40	3 34.692			
	Oeltzen N. 8459 .	54.5	6.7	19.1	55 6.77	1 41.262	0 36.73	23.432	
	Egeria	31.5	. .	55.5	55 43.50	3 34.778			
	Oeltzen N. 8459 .	45.2	57.3	9.5	56 57.33	1 41.357	0 36.32	23.448	
	Egeria	21.5	. .	45.8	57 33.65	3 34.889			
	Oeltzen N. 8459 .	26.9	39.2	51.8	58 39.30	1 41.475	0 36.47	23.310	
	Egeria	3.9	15.8	27.6	59 15.77	3 34.869			
	Oeltzen N. 8459 .	58.0	10.2	22.2	4 0 10.13	1 41.310	+0 36.37	— 23.281	
	Egeria	34.5	. .	58.5	0 46.50	3 34.675			
Jan. 9	Egeria	20.1	32.7	45.1	3 38 32.63	1 42.027			m. s.
	Oeltzen N. 8445 .	18.6	30.8	42.9	40 30.77	2 35.269	—1 58.14	+ 10.373	Corr. Chron. + 4 47.43
H.	Oeltzen N. 8459 .	31.0	43.5	55.6	41 43.37	5 36.540	3 10.74	54.514	*a* *δ*
									h. m. s. ° ′ ″
	Egeria	4.3	16.1	29.0	43 16.47	1 41.919			Oeltzen N. 8459, 7 49 56.38 +46 58 55.45
	Oeltzen N. 8445 .	3.0	15.0	27.4	45 15.13	2 35.431	1 58.66	10.643	Oeltzen N. 8445, 7 48 43.80 +47 10 6.50
	Oeltzen N. 8459 .	15.5	27.5	39.6	46 27.53	5 36.571	3 11.06	54.653	
									Egeria—Oeltzen N. 8459,
	Egeria	9.0	21.2	33.5	48 21.23	1 41.965			Δ *a* Δ *δ*
	Oeltzen N. 8445 .	8.0	20.1	32.3	50 20.13	2 35.355	1 58.90	10.521	h. m. s. m. s. ′ ″
	Oeltzen N. 8459 .	20.4	32.6	45.0	51 32.67	5 36.454	3 11.44	54.490	Sid. T. 3 59 48.82 — 3 11.73 +14 0.21
									Δ *ρ* + .02 + .24
	Egeria	7.9	19.8	32.0	53 19.90	1 42.056			*p* — .40 — .74
	Oeltzen N. 8445 .	6.8	19.0	31.0	55 18.93	2 35.638	1 59.03	10.713	
	Oeltzen N. 8459 .	19.5	31.2	43.3	3 56 31.33	5 36.740	3 11.43	54.685	Egeria—Oeltzen N. 8445,
									h. m. s.
	Egeria	47.0	59.1	11.3	4 10 59.13	1 42.200			Sid. T. 3 59 48.82 — 1 59.14 + 2 44.51
	Oeltzen N. 8445 .	46.9	59.0	11.4	12 59.10	2 35.970	1 59.97	10.901	Δ *ρ* .00 + .03
	Oeltzen N. 8459 .	59.9	12.0	23.9	14 11.93	5 37.182	3 12.80	54.983	*p* — .40 — .74
	Egeria	26.7	39.1	51.1	15 38.97	1 41.962			
	Oeltzen N. 8445 .	27.1	39.2	51.1	17 39.13	2 36.034	2 0.16	11.203	
	Oeltzen N. 8459 .	39.7	51.9	4.0	18 51.87	5 37.336	—3 12.90	+ 55.375	
Jan. 11	Egeria	17.5	29.6	41.6	4 43 29.57	5 46.782			m. s.
	Radcliffe 2048 . .	49.5	1.3	13.2	44 1.33	1 31.630	0 31 76	— 75.153	Corr. Chron. + 4 53.29
F.									*a* *δ*
	Egeria	25.4	37.4	49.7	48 37.50	5 46.898			h. m. s. ° ′ ″
	Radcliffe 2048 . .	57.7	9.9	22.1	49 9.90	1 31.871	0 32.40	75.028	Radcliffe 2048, 7 44 38.47 +47 43 51.92
									Egeria—Radcliffe 2048,
	Egeria	20.8	33.2	45.5	53 33.17	5 47.249			Δ *a* Δ *δ*
	Radcliffe 2048 . .	53.8	5.6	17.9	54 5.77	1 31.878	0 32.60	75.372	h. m. s. m. s. ′ ″
									Sid. T. 4 55 40.28 — 0 32.46 —19 13.70
	Egeria	15.9	27.9	39.4	57 27.73	5 47.222			Δ *ρ* — .02 — .32
	Radcliffe 2048 . .	48.7	0.4	13.3	58 0.80	1 31.875	—0 33.07	— 75.348	*p* — .32 .00

EURYNOME.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ a	Δ mic.	REMARKS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Jan. 9	Eurynome	45.7	54.6	3.0	1 54 54.43	2 38.413			Corr. Chron. + 4 46.92
H.	Weisse I, 269	- -	41.1	- -	55 41.10	3 34.790	—0 46.67	+ 9.162	a δ
	Eurynome	44.1	52.7	1.2	58 52.67	2 38.295			h. m. s. ° ′ ″
	Weisse I, 269	31.0	39.3	47.7	1 59 39.33	3 34.753	0 46.66	9.243	Weisse I, 269, 1 17 20.16 + 5 46 34.17
	Eurynome	35.0	43.4	51.9	2 5 43.43	2 37.795			Eurynome—Weisse I, 269,
	Weisse I, 269	21.2	29.3	37.9	6 29.47	3 34.581	0 46.04	9.571	Δa $\Delta \delta$
	Eurynome	6.7	15.1	23.6	8 15.13	2 37.712			h. m. s. m. s. ′ ″
	Weisse I, 269	52.7	1.2	9.4	9 1.10	3 34.615	0 45.97	9.688	Sid. T. 2 20 5.87 — 0 45.50 + 2 29.62
	Eurynome	13.5	21.9	30.2	20 21.87	2 37.443			$\Delta \rho$ .00 + .06
	Weisse I, 269	58.9	7.0	15.4	21 7.10	3 34.434	0 45.23	9.776	p — .07 + 2.78
	Eurynome	54.0	2.7	11.3	23 2.67	2 37.348			
	Weisse I, 269	39.3	48.0	56.0	23 47.77	3 34.682	0 45.10	10.119	
	Eurynome	51.1	0.2	8.6	24 59.97	2 37.420			
	Weisse I, 269	36.6	44.9	53.3	25 44.93	3 34.780	0 44.96	10.145	
	Eurynome	18.6	27.0	35.1	27 26.90	2 37.422			
	Weisse I, 269	3.2	11.3	19.8	28 11.43	3 34.526	0 44.53	9.889	
	Eurynome	5.0	13.5	21.9	34 13.47	2 37.190			
	Weisse I, 269	49.4	58.0	5.9	34 57.77	3 34.610	—0 44.30	+ 10.205	
Jan. 12	Weisse I, 328	16.6	25.0	33.4	2 30 25.00	2 46.175			m. s.
	Eurynome	4.0	12.2	20.6	31 12.27	3 45.735	+0 47.27	— 12.345	Corr. Chron. + 4 55.20
H.	Weisse I, 328	11.8	20.2	28.7	33 20.23	2 46.228			a δ
	Eurynome	59.1	7.3	16.1	34 7.50	3 45.830	0 47.27	12.387	h. m. s. ° ′ ″
	Weisse I, 328	31.1	39.2	47.9	35 39.40	2 46.257			Weisse I, 328, 1 20 15.96 + 6 15 23.98
	Eurynome	19.0	27.0	35.2	36 27.07	3 45.888	0 47.67	12.416	Eurynome—Weisse I, 328,
	Weisse I, 328	7.9	16.1	24.6	38 16.20	2 46.248			Δa $\Delta \delta$
	Eurynome	55.6	4.0	12.2	39 3.93	3 45.825	0 47.73	12.362	h. m. s. m. s. ′ ″
	Weisse I, 328	35.1	43.4	51.9	40 43.47	2 46.287			Sid. T. 2 42 54.47 + 0 47.64 — 3 9.83
	Eurynome	23.1	31.6	39.7	41 31.47	3 45.805	0 48.00	12.303	$\Delta \rho$ .00 — .08
	Weisse I, 328	37.1	45.4	54.0	44 45.50	2 46.247			p — .09 + 2.70
	Eurynome	25.2	33.1	41.9	45 33.40	3 45.912	+0 47.90	— 12.450	
Feb. 4	Weisse I, 1022	50.6	59.0	7.3	3 38 58.97	3 42.077	+1 1.50	+ 10.784	m. s.
	Eurynome	52.1	0.5	8.8	40 0.47	3 31.293			Corr. Chron. — 1 59.94
H.	Weisse I, 1022	33.8	42.1	50.6	41 42.17	3 42.080	1 1.46	10.920	a δ
	Eurynome	35.2	43.7	52.0	42 43.63	3 31.160			h. m. s. ° ′ ″
	Weisse I, 1022	19.3	27.6	36.2	44 27.70	3 42.016	1 1.93	10.804	Weisse I, 1022, 1 58 10.87 + 9 25 27.34
	Eurynome	21.2	29.7	38.0	45 29.63	3 31.212			Eurynome—Weisse I, 1022,
	Weisse I, 1022	57.4	5.8	14.2	47 5.80	3 42.100	1 1.93	10.990	Δa $\Delta \delta$
	Eurynome	59.5	7.5	16.2	48 7.73	3 31.110			h. m. s. m. s. ′ ″
	Weisse I, 1022	43.5	51.9	0.1	49 51.83	3 42.094	1 2.30	11.025	Sid. T. 3 53 3.24 + 1 2.54 + 2 50.45
	Eurynome	45.7	54.0	2.7	50 54.13	3 31.069			$\Delta \rho$ .00 + .07
	Weisse I, 1022	6.1	14.3	22.6	55 14.33	3 42.043	1 2.70	11.239	p — .11 + 2.19
	Eurynome	8.8	17.0	25.3	56 17.03	3 30.804			
	Weisse I, 1022	36.4	45.0	53.5	57 44.97	3 42.007	1 2.80	11.201	
	Eurynome	39.3	47.9	56.1	3 58 47.77	3 30.806			
	Weisse I, 1022	7.0	15.4	23.8	4 0 15.40	3 42.061	1 3.13	11.319	
	Eurynome	10.1	18.5	27.0	1 18.53	3 30.742			
	Weisse I, 1022	58.4	7.0	15.4	3 6.93	3 42.077	+1 3.20	+ 11.262	
	Eurynome	1.8	10.2	18.4	4 10.13	3 30.815			

(Continued.)

EURYNOME.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Feb. 4	Weisse I, 1022	39.5	47.9	56.1	4 5 47.83	3 42.090	+1 3.34	+ 11.327	
H.	Eurynome	42.7	51.1	59.7	6 51.17	3 30.763			
	Weisse I, 1022	42.7	51.1	59.6	9 51.13	3 42.058	+1 3.64	+ 11.380	
	Eurynome	46.2	54.9	3.2	10 54.77	3 30.678			
									m. s.
Feb. 24	Weisse II, 615	41.2	49.6	58.1	6 6 49.63	1 37.791	+0 38.44	— 57.782	Corr. Chron. — 1 25.17
H.	Eurynome	19.6	28.1	36.5	7 28.07	5 35.572			α δ
									h. m. s. ° ′ ″
	Weisse II, 615	50.5	58.8	7.5	8 58.93	1 37.690	0 38.80	57.732	Weisse II, 615, 2 36 21.05 +12 42 38.11
	Eurynome	29.6	37.8	45.8	9 37.73	5 35.421			Eurynome—Weisse II, 615,
	Weisse II, 615	51.0	59.5	7.9	10 59.47	1 37.659	0 38.93	57.837	Δ α Δ δ
	Eurynome	29.9	38.5	46.8	11 38.40	5 35.495			h. m. s. m. s. ′ ″
									Sid. T. 6 20 20.94 + 0 39.75 —14 42.61
	Weisse II, 615	7.9	16.3	24.6	13 16.27	1 37.658	0 39.10	57.588	Δ ρ + .01 — .45
	Eurynome	47.0	55.3	3.8	13 55.37	5 35.245			p + .17 + 2.00
	Weisse II, 615	51.6	59.8	8.6	15 00.00	1 37.523	0 39.07	57.703	
	Eurynome	30.7	39.0	47.5	15 39.07	5 35.225			
	Weisse II, 615	19.3	27.6	36.3	17 27.73	1 37.491	0 39.50	57.659	
	Eurynome	58.8	7.3	15.6	18 7.23	5 35.149			
	Weisse II, 615	12.6	20.9	29.7	18 21.07	1 37.453	0 39.63	57.687	
	Eurynome	52.4	0.7	9.0	19 0.70	5 35.139			
	Weisse II, 615	45.3	53.6	2.0	21 53.63	1 37.339	0 39.84	57.337	
	Eurynome	25.2	33.4	41.8	22 33.47	5 34.675			
	Weisse II, 615	26.8	35.2	43.7	24 35.23	1 37.259	0 40.17	57.427	
	Eurynome	7.0	15.5	23.7	25 35.40	5 34.685			
	Weisse II, 615	35.8	44.4	52.9	26 44.37	1 37.228	0 40.26	57.454	
	Eurynome	16.2	24.7	33.0	27 24.63	5 34.681			
	Weisse II, 615	45.7	54.0	2.8	28 54.17	1 37.248	0 40.33	57.423	
	Eurynome	26.2	34.4	42.9	29 34.50	5 34.670			
	Weisse II, 615	29.2	37.6	45.8	30 37.53	1 37.040	0 40.47	57.390	
	Eurynome	9.7	17.9	26.4	31 18.00	5 34.429			
	Weisse II, 615	56.7	5.1	13.7	34 5.17	1 37.079	0 40.73	57.344	
	Eurynome	37.6	45.7	54.4	34 45.90	5 34.422			
	Weisse II, 615	17.2	25.9	34.4	37 25.83	1 36.365	+0 41.24	— 57.296	
	Eurynome	58.5	7.0	15.7	38 7.07	5 33.660			
	Weisse II, 639	40.7	49.1	57.7	38 49.17.	3 35.350			
									m. s.
Feb. 27	Eurynome	18.3	27.0	35.9	5 27 27.07	3 40.850			Corr. Chron. — 1 18.65
H.	Weisse II, 746	30.2	39.0	48.0	28 39.07	3 48.890	—1 12.00	— 8.040	α δ
									h. m. s. ° ′ ″
	Eurynome	1.5	10.0	18.7	30 10.07	3 40.810			Weisse II, 746, 2 44 3.45 +12 55 47.51
	Weisse II, 746	14.0	23.0	30.7	31 22.57	3 48.444	1 12.50	7.634	Eurynome—Weisse II, 746,
	Eurynome	48.0	56.3	4.9	32 56.40	3 41.040			Δ α Δ δ
	Weisse II, 746	59.9	8.0	16.4	34 8.10	3 48.540	1 11.70	7.500	h. m. s. m. s. ′ ″
	Eurynome	21.8	. .	38.9	38 30.35	3 41.160			Sid. T. 5 32 57.69 — 1 11.67 — 1 57.39
	Weisse II, 746	33.0	42.0	49.9	39 41.63	3 48.905	1 11.28	7.745	Δ ρ .00 — .04
									p — .12 + 1.79
	Eurynome	9.2	18.0	26.3	42 17.83	3 41.400			
	Weisse II, 746	20.4	28.6	37.1	43 28.70	3 48.750	—1 10.87	— 7.350	
									m. s.
Mar. 2	Weisse II, 841	23.5	. .	48.3					Corr. Chron. — 1 13.83
F.		27.4	35.7	44.4	6 48 35.86	4 39.078	+2 12.33	+ 27.158	α δ
	(* 12)	. .	. .	56.4					h. m. s. ° ′ ″
		. .	44.7	53.3	50 44.53				Weisse II, 841, 2 48 46.10 +13 21 52.12
	Eurynome	. .	. .	0.6					
		. .	48.4	56.4	50 48.19	2 37.782			

(Continued.)

EURYNOME.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ *a*	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 2	Weisse II, 841	26.4	- -	52.2				
		30.3	38.6	47.1	6 53 38.92	4 38.772	+2 12.60	+ 27.040
F.	Eurynome	39.2	- -	3.7				
		43.1	51.7	59.9	55 51.52	2 37.560		
	Weisse II, 841	26.3	- -	51.1				
		30.2	38.4	46.9	59 38.58	4 38.949	2 13.41	27.320
	Eurynome	39.5	- -	4.5				
		43.5	52.0	0.4	59 51.99	2 27.491		
	Weisse II, 841	14.1	- -	38.9				
		18.0	26.5	35.2	7 1 26.54	4 38.887	2 13.72	27.537
	Eurynome	27.8	- -	52.9				
		31.7	40.3	48.6	3 40.26	2 37.212		
	Weisse II, 841	20.5	- -	45.1				
		24.6	32.8	41.2	5 32.84	4 38.628	2 14.10	27.372
	Eurynome	34.7	- -	59.3				
		38.3	46.9	55.5	7 46.94	2 37.118		
	Weisse II, 841	21.8	- -	46.4				
		25.7	34.3	42.6	9 34.16	4 33.529	2 14.40	27.613
	Eurynome	- -	- -	0.8				
		- -	48.6	57.1	11 48.56	2 36.778		
	Weisse II, 841	4.6	- -	29.5				
		8.6	17.0	25.5	13 17.04	4 38.292	2 14.76	27.535
	Eurynome	19.2	- -	44.2				
		23.4	31.8	40.4	15 31.80	2 30.619		
	Weisse II, 841	49.8	- -	14.6				
		53.8	2.1	10.6	17 2.18	4 38.114	2 15.02	27.525
	Eurynome	4.8	- -	29.5				
		9.0	16.9	25.8	19 17.20	2 36.451		
	Weisse II, 841	50.6	- -	15.2				
		54.5	3.0	11.3	20 2.92	4 37.820	2 15.22	27.534
	Eurynome	5.8	- -	30.5				
		9.6	18.4	26.4	22 18.14	2 36.148		
	Weisse II, 841	42.8	- -	8.0				
		47.3	55.5	3.6	24 55.44	4 37.610	+2 15.74	+ 27.877
	Eurynome	59.0	- -	23.5				
		2.6	11.2	19.6	27 11.18	2 35.595		
Mar 3.	(* 132) W.	8.6	17.2	25.8	6 36 17.20	4 47.880	+0 35.93	— 35.442
	Eurynome	44.6	53.2	1.6	36 53.13	2 38.300		
H.	(* 132) W.	51.3	59.4	8.2	38 59.63	4 48.080	0 35.90	35.532
	Eurynome	26.9	35.6	44.1	39 35.53	2 38.410		
	(* 132) W.	18.9	27.1	35.7	41 27.23	4 47.980	0 36.67	35.562
	Eurynome	55.4	4.0	12.3	42 3.90	2 38.280		
	(* 132) W.	47.4	55.7	4.2	43 55.77	4 47.800	0 36.36	35.242
	Eurynome	23.6	32.1	40.7	44 32.13	2 38.420		
	(* 132) W.	54.7	3.0	11.4	47 3.03	4 48.110	0 36.60	35.432
	Eurynome	31.0	39.9	48.0	46 39.63	2 38.540		
	(* 132) W.	18.2	26.8	35.0	50 26.67	4 47.910	0 37.23	34.992
	Eurynome	55.3	4.0	12.4	51 3.90	2 38.780		
	(* 132) W.	47.0	55.3	3.7	53 55.33	4 48.100	0 37.24	35.012
	Eurynome	23.9	32.6	41.2	54 32.57	2 33.950		
	(* 132) W.	43.2	51.9	0.2	56.51 77	4 48.280	0 37.66	35.322
	Eurynome	21.0	29.6	37.7	57 29.43	2 38.820		
	(* 132) W.	6.4	15.0	23.6	59 15.00	4 48.420	0 37.90	34.912
	Eurynome	44.3	53.0	1.4	6 59 52.90	2 39.370		
	(* 132) W.	22.1	30.3	38.4	7 2 30.27	4 48.440	+0 38.53	— 35.032
	Eurynome	0.4	9.0	17.0	3 8.80	2 39.270		

RESULTS.

Eurynome—Weisse II, 841,

	h. m. s.	Δ *a* m. s.	Δ *δ* ′ ″
Sid. T.	7 7 10.75	+ 2 14.13	+ 7 1.07
Δ *ρ*		— .01	.26
p		— .18	+ 2.01

m. s.
Corr. Chron. — 1 12.26

	a h. m. s.	*δ* ° ′ ″
(* 132) W.,	2 52 21.03	+13 46 8.69

Eurynome— (* 132) W.,

	h. m. s.	Δ *a* m. s.	Δ *δ* ′ ″
Sid. T.	6 48 22.93	+ 0 37.02	+ 9 0.61
Δ *ρ*		+ .01	— .28
p		— .17	+ 2.03

EURYNOME.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
April 6	2. Weisse IV, 65 .	53.3	1.9	10.6	9 37 1.93	5 47.050	+0 32.24	+ 71.961	Corr. Chron. — 0 14.77
	(* 9)	23.3	32.1	40.6	37 32.00	1 38.295			α δ
F.	Eurynome . . .	25.0	34.6	42.9	37 34.17	1 35.090			h. m. s. ° ′ ″
	(* 12).	. .	53.2	2.0	37 53.02	1 33.571			2. Weisse IV, 65 4 4 49.96 +17 28 50.78
	2. Weisse IV, 65 .	8.6	17.1	25.8	46.17.17	5 46.418	+0 33.08	+ 71.649	Eurynome—2. Weisse IV, 65,
	(* 9)	38.4	. .	55.8	46 47.10	1 37.211			△ α △ δ
	Eurynome . . .	41.8	. .	58.7	46 50.25	1 34.770			h. m. s. m. s. ′ ″
									Sid. T. 9 41 57.44 + 0 32.66 +18 21.27
	(* 9)	54.2	2.8	11.6	50 2.87	3 34.625			Δ ρ — .03 + .67
	Eurynome . . .	57.1	5.6	14.6	9 50 5.77	3 32.387			p + .16 + 1.94
April 7	Eurynome . . .	46.0	54.0	3.2	9 5 54.40	3 35.440			m. s.
	2. Weisse IV, 183 .	24.4	33.0	42.0	8 33.13	3 45.205	—2 38.73	— 9.765	Corr. Chron. — 0 13.76
H.									α δ
	Eurynome . . .	0.5	9.0	18.0	10 9.17	3 35.945			h. m. s. ° ′ ″
	2. Weisse IV, 183 .	38.4	47.2	56.0	12 47.20	3 45.344	2 38.03	9.399	2. Weisse IV, 183 4 10 10.54 +17 55 10.70
	Eurynome . . .	0.8	. .	17.9	14 9.35	3 36.054			Eurynome—2. Weisse IV, 183,
	2. Weisse IV, 183 .	38.0	47.3	56.2	16 47.17	3 45.653	2 37.82	9.597	△ α △ δ
									h. m. s. m. s. ′ ″
	Eurynome . . .	59.4	7.8	16.8	21 8.00	3 37.733			Sid. T. 9 28 57.10 — 2 36.36 — 2 20.95
	2. Weisse IV, 183 .	36.3	45.1	54.0	23 45.13	3 46.773	2 37.13	9.040	Δ ρ + .01 — .17
									p + .17 + 1.80
	Eurynome . . .	10.4	19.0	27.7	25 19.03	3 37.796			
	2. Weisse IV, 183 .	47.2	56.1	4.8	27 56.03	3 47.127	2 37.00	9.331	
	Eurynome . . .	36.6	45.2	54.4	29 45.40	3 38.420			
	2. Weisse IV, 183 .	13.0	21.7	30.3	32 21.67	3 47.455	2 36.27	9.035	
	Eurynome . . .	4.6	13.2	21.8	34 13.20	3 38.700			
	2. Weisse IV, 183 .	40.0	49.0	57.7	36 48.90	3 47.934	2 34.70	9.234	
	Eurynome . . .	39.1	47.9	56.4	45 47.80	3 34.626			
	2. Weisse IV, 183 .	13.9	22.5	31.1	48 22.50	3 43.508	2 34.70	8.882	
	Eurynome . . .	5.5	14.1	22.9	50 14.17	3 35.050			
	2. Weisse IV, 183 .	39.7	49.0	57.6	52 48.77	3 44.036	2 34.60	8.986	
	Eurynome . . .	59.2	8.1	17.0	55 8.10	3 36.016			
	2. Weisse IV, 183 .	32.4	42.1	50.7	9 57 41.73	3 44.647	—2 33.63	— 8.631	

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 25	Comet	8.1	21.6	35.5	6 55 21.73	5 35.511			m. s. Corr. Chron. — 0 34.11
	Oeltzen 23385	- -	10.7	24.5	56 10.45	2 30.199	—0 48.72	— 48.182	α h. m. s. δ ° ′ ″
F.	Comet	22.7	36.8	50.1	7 0 36.53	5 34.358			Oeltzen N. 23385, 22 0 58.42 +52 57 57.78
	Oeltzen 23385	- -	23.2	36.3	1 23.16	2 30.811	0 46.63	46.417	Comet—Oeltzen N. 23385,
	Comet	20.9	34.3	48.3	2 34.50	5 33.800			Δ α Δ δ
	Oeltzen 23385	- -	19.2	31.8	3 18.70	2 30.732	0 44.20	45.938	h. m. s. m. s. ′ ″
	Comet	27.3	41.2	55.3	4 41.26	5 33.339			Sid. T. 7 4 4.34 — 0 40.37 —11 44.85
	Oeltzen 23385	- -	21.8	35.3	5 21.56	2 30.609	0 40.30	45.600	Δ t — .11 - -
	Comet	27.2	41.0	54.8	6 41.00	5 32.890			Δ ρ + .02 — .24
	Oeltzen 23385	- -	18.4	32.3	7 18.45	2 30.542	0 37.45	45.218	p + 3.17 + 10.32
	Comet	26.2	40.3	54.2	9 40.23	5 32.881			
	Oeltzen 23385	- -	14.1	28.0	10 14.03	2 30.501	0 33.80	45.250	
	Comet	49.2	3.7	18.7	14 3.87	5 32.449			
	Oeltzen 23385	- -	- -	50.2	7 14 35.37	2 30.222	—0 31.50	— 45.097	
Jan. 26	Comet	43.2	4.2	25.3	2 58 4.23	3 35.709			m. s. Corr. Chron. — 2 20.43
	Oeltzen 24533	30.7	- -	11.6	58 51.15	4 40.616	—0 46.92	+ 17.984	α h. m. s. δ ° ′ ″
H.	Comet	7.4	29.0	- -	3 1 28.83	3 35.497			Oeltzen N. 24533, 22 36 2.83 +53 40 51.45
	Oeltzen 24533	- -	10.2	31.3	2 10.30	4 40.652	0 41.47	18.232	Comet—Oeltzen N. 24533,
	Comet	9.5	30.4	51.5	4 30.47	3 35.306			Δ α Δ δ
	Oeltzen 24533	- -	6.6	27.7	5 6.70	4 40.423	0 36.23	18.194	h. m. s. m. s. ′ ″
	Comet	24.0	45.5	6.2	6 45.23	3 34.690			Sid. T. 3 35.51.63 + 0 18.16 + 5 41 69
	Oeltzen 24533	- -	17.9	38.5	7 17.83	4 40.580	0 32.60	18.967	Δ ρ — .01 + .08
	Comet	52.3	14.0	35.0	8 13.77	3 34.514			p + 3.39 + 8.18
	Oeltzen 24533	- -	42.3	3.0	9 42.27	4 40.444	0 28.50	19.007	
	Comet	14.4	35.2	56.8	11 35.47	3 34.158			
	Oeltzen 24533	- -	0.2	21.3	12 0.30	4 40.526	—0 24.83	19.445	
	Oeltzen 24533	5.9	20.0	34.1	52 20.00	4 37.813			
	Comet	48.1	2.0	16.6	53 2.23	2 39.814	+0 42.23	23.861	
	Oeltzen 24533	4.9	18.3	32.8	55 18.67	4 37.762			
	Comet	51.2	5.5	20.0	56 5.57	2 39.379	0 46.90	24.245	
	Oeltzen 24533	31.4	45.5	59.3	57 45.40	4 37.819			
	Comet	22.1	36.2	51.0	3 58 36.43	2 39.175	0 51.03	24.506	
	Oeltzen 24533	2.6	16.5	30.8	4 0 16.63	4 37.675			
	Comet	57.2	11.9	26.1	1 11.73	2 38.650	0 55.10	24.887	
	Oeltzen 24533	59.9	13.8	28.0	3 13.90	4 37.592			
	Comet	59.9	14.0	- -	4 14.03	2 38.142	1 0.13	25.312	
	Oeltzen 24533	31.6	45.2	- -	5 45.40	4 37.538			
	Comet	35.4	49.4	- -	6 49.47	2 37.918	1 4.07	25.482	
	Oeltzen 24533	8.7	22.3	36.6	9 22.53	4 37.374			
	Comet	18.1	32.7	- -	10 32.57	2 37.545	1 10.04	25.691	
	Oeltzen 24533	9.6	23.3	37.7	12 23.53	4 37.374			
	Comet	24.2	39.0	- -	4 13 38.80	2 37.164	+1 15.27	+ 26.072	
Jan. 27	Comet	28.4	- -	11.1	3 15 49.88	5 47.501			
		35.4	49.9	4.6					
F.	Radcliffe 6067	52.4	- -	34.4	17 13.50	1 42.000	—1 23.62	— 65.502	
		59.5	13.4	27.8					
	Comet	0.9	- -	43.8	20 22.30	5 47.750			
		7.8	22.2	36.8					
	Radcliffe 6067	- -	- -	58.8	21 37.47	1 41.881	1 15.17	65.870	
		- -	37.6	51.9					
	Radcliffe 6081	27.4	- -	9.2	3 23 48.22	4 50.882	—3 25.92	— 13.876	
		33.9	48.1	2.5					

(Continued.)

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 27	Comet	15.8	. .	58.6	3 26 37.28	4 48.283		
		22.6	37.2	52.2				
F.	Radcliffe 6081	31.1	. .	13.1	29 51.94	3 47.210	—3 14.66	— 14.150
		37.6	51.8	6.1				
	Comet	6.7	. .	49.6	33 28.16	4 48.511		
		13.4	28.0	43.1				
	Radcliffe 6081	9.4	. .	51.0	36 30.10	3 47.300	3 1.94	14.288
		16.0	29.9	44.2				
	Comet	51.4	. .	34.1	38 12.66	4 48.562		
		58.3	12.2	27.3				
	Radcliffe 6081	45.5	. .	27.1	41 6.16	3 47.185	2 53.50	14.454
		51.9	5.9	20.4				
	Comet	23.5	. .	6.9	58 45.02	4 49.177		
		30.5	44.7	59.5				
	Radcliffe 6081	40.5	. .	21.5	4 1 0.86	3 46.890	2 15.84	15.364
		46.8	0.6	14.9				
	Comet	15.6	. .	57.9	2 36.84	4 48.975		
		22.4	36.8	51.5				
	Radcliffe 6081	. .	. .	6.6	4 45.33	3 46.834	2 8.49	15.218
		. .	45.5	59.7				
	Comet	4.8	. .	47.9	6 26.36	4 49.081		
		12.0	26.2	40.9				
	Radcliffe 6081	. .	. .	48.9	8 27.63	3 46.697	2 1.27	15.461
		13.5	27.8	41.9				
	Comet	29.0	. .	11.4	10 50.30	4 49.291		
		35.7	50.5	4.9				
	Radcliffe 6081	23.5	. .	5.1	12 44.18	3 46.659	1 53.88	15.709
		29.8	44.0	58.5				
	Comet	51.1	. .	33.9	14 12.36	4 49.359		
		57.7	12.4	26.7				
	Radcliffe 6081	39.2	. .	20.7	15 59.80	3 46.640	1 47.44	15.796
		45.5	59.7	13.9				
	Comet	16.2	. .	59.0	17 37.94	4 49.521		
		23.0	37.4	53.1				
	Radcliffe 6081	57.8	. .	39.6	19 18.54	3 46.659	1 40.60	15.939
		4.4	18.3	32.6				
	Comet	33.9	. .	16.7	21 55.20	4 49.595		
		40.6	55.2	9.6				
	Radcliffe 6081	. .	. .	49.1	23 28.18	3 46.575	1 32.98	16.097
		14.3	28.3	42.3				
	Comet	26.2	. .	9.1	24 47.58	4 49.555		
		33.1	47.5	2.0				
	Radcliffe 6081	. .	. .	36.4	26 15.16	3 46.485	1 27.58	16.147
		1.0	15.2	29.4				
	Comet	33.5	. .	16.1	28 54.76	4 49.650		
		40.4	54.4	9.4				
	Radcliffe 6081	54.4	. .	35.9	30 14.92	3 46.317	1 20.16	16.410
		0.6	14.7	29.0				
	Comet	3.6	. .	46.1	33 25.10	4 49.861		
		11.1	25.2	39.5				
	Radcliffe 6081	. .	. .	57.8	4 34 36.72	3 46.391	—1 11.62	— 16.547
		22.7	36.8	51.1				
Jan. 28	Oeltzen 26423	14.0	27.3	41.3	3 26 27.53	1 36.998	+2 24.94	+ 67.367
	Comet	38.2	52.4	6.8	28 52.47	5 44.364		
H.								
	Oeltzen 26423	35.9	49.6	3.0	30 49.50	1 37.120	2 33.67	66.221
	Comet	8.9	23.0	37.6	33 23.17	5 43.340		
	Oeltzen 26423	24.4	38.2	51.8	35 38.13	1 37.106	+2 43.00	+ 65.256
	Comet	6.9	21.2	35.3	3 38 21.13	5 42.361		

RESULTS.

m. s.
Corr. Chron. + 2 14.10

	a (h. m. s.)	δ (° ′ ″)
Radcliffe 6067,	23 18 40.52	+54 20 36.70
Radcliffe 6081,	23 20 50.63	+54 7 18.46

Comet—Radcliffe 6067,

		Δ a (m. s.)	Δ δ (′ ″)
Sid. T.	3 15 51 99	— 1 19.39	—16 47.44
	Δ ρ	+ .04	— .18
	p	+ 3.23	+ 2.01

Comet—Radcliffe 6081,

Sid. T.	4 0 29.60	— 2 1.13	— 3 56.08
	Δ ρ	+ .01	— .07
	p	+ 3.53	+ 6.57

(Continued.)

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 28	Oeltzen 26423 . .	51.9	6.0	19.5	3 40 5.80	1 37.175	+2 51.90	+ 64.055	m. s.
	Comet	43.2	58.0	11.9	42 57.70	5 41.229			Corr. Chron. — 2 10.56
H.									α δ
									h. m. s. ° ′ ″
	Oeltzen 26423 . .	6.0	19.6	33.4	45 19.67	1 37.111	3 2.33	62.966	Oeltzen N. 26423, 0 1 1.44 +53 2 46.42
	Comet	7.8	22.0	36.2	48 22.00	5 40.076			
									Comet—Oeltzen N. 26423,
	Oeltzen 26423 . .	16.9	30.7	44.3	50 30.63	1 37.222	3 12.74	61.669	Δ α Δ δ
	Comet	29.1	43.4	57.6	53 43.37	5 38.890			h. m. s. m. s. ′ ″
									Sid. T. 3 43 50.62 + 2 57.94 +16 13.10
	Oeltzen 26423 . .	1.8	15.7	29.2	55 15.57	1 37.289	3 22.40	60.614	Δ ρ — .03 + 0.27
	Comet	23.6	38.0	52.3	3 58 37.97	5 37.902			p + 3.16 + 0.63
	Oeltzen 26423 . .	5.3	19.1	32.9	4 0 19.10	1 37.389	+3 32.53	+ 59.432	
	Comet	37.3	51.7	5.9	3 51.63	5 36.820			
Feb. 3	Comet . . .	14.5	. .	42.4					m. s.
		19.0	28.3	37.6	6 5 28.36	2 43.612			Corr. Chron. — 2 1.34
F.	(* 9.1) . . .	. .	. .	27.2					α δ
		. .	. .	22.8	6 13.36	1 48.525	—0 45.00	— 11.218	h. m. s. ° ′ ″
									B. Z. 398, 17, 3 39 19.43 +28 58 12.26
	Comet . . .	27.8	. .	56.0					
		32.6	41.5	51.3	9 41.84	4 43.085			Comet—B. Z. 398, 17,
	(* 9.1) . . .	9.9	. .	37.6					Δ α Δ δ
		14.3	23.6	32.7	10 23.62	3 40.939			h. m. s. m. s. ′ ″
	B. Z. 398, 17 .	57.8	. .	25.5					Sid. T. 6 22 49.73 — 2 17.55 —15 53.96
		2.3	11.3	21.0	12 11.58	1 35.530	2 29.74	50.548	Δ ρ .00 — .29
									p + 1.64 + 11.21
	Comet . . .	26.7	. .	55.0					
		31.3	40.6	50.3	14 40.78	4 46.819			
	(* 9.1) . . .	4.9	. .	32.4					
		9.3	18.6	27.7	15 18.58	3 40.728			
	B. Z. 398, 17 .	. .	. .	20.4					
		56.9	6 4	15.9	17 6.40	1 35.429	2 25.62	54.383	
	Comet . . .	18.8	. .	46.4					
		22.8	32.3	41.5	19 32.36	5 33.451			
	B. Z. 398, 17 .	40.2	. .	7.9					
		44.8	54.2	3.5	21 54.12	1 35.331	2 21.76	58.121	
	Comet . . .	19.3	. .	47.6					
		24.2	33.5	42.9	23 33.50	5 36.572			
	B. Z. 398, 17 .	38.4	. .	6.0					
		42.8	52.1	1 6	25 52.18	1 35.362	2 18.68	61.211	
	Comet . . .	0.1	. .	28.1					
		5.0	14.2	23.7	27 14.22	5 39.302			
	B. Z. 398, 17 .	16.0	. .	43.8					
		20.4	29.9	39.4	29 29.90	1 35.292	2.15.68	64.011	
	Comet . . .	40.6	. .	8.6					
		44.7	54.2	3.6	30 54.34	5 42.015			
	B. Z. 398, 17 .	53.3	. .	20.8					
		57.8	7.1	16.5	33 7.10	1 35.360	2 12.76	66.656	
	Comet . . .	27.0	. .	55.2					
		31.6	41.1	50.3	34 41.04	5 39.040			
	B. Z. 398, 17 .	36.9	. .	4.5					
		41.4	50.6	0.1	36 50.70	1 29.198	2 9.66	69.843	
	Comet . . .	16.4	. .	44.5					
		21.1	30.5	39.9	38 30.48	5 42.355			
	B. Z. 398, 17 .	23.1	. .	51.1					
		27.4	36.9	46.3	6 40 36.96	1 29.540	—2 6.48	72.816	
Feb. 5	Comet . . .	34.2	. .	59.7					
		38.1	46.9	55.7	5 57 46.92	3 47.269			
	Tauri ω^2 . . .	46.2	. .	12.5					
		50.7	59.7	8.3	5 57 59.48	2 48.443	—0 12.56	11.611	
F.									
	Comet . . .	58.5	. .	24.3					
		2.7	11.2	19.5	6 0 11.24	3 48.735			
	Tauri ω^2 . . .	13.7	22.9	. .	6 0 22.59	2 48.561	—0 11.35	— 12.959	

(Continued.)

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1863.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Feb. 5	Comet	19.2	. .	45.1					Corr. Chron. — 1 58 30
		22.8	31.5	40.8	6 3 31.88	3 50.710			α δ
	Tauri ω^2	. .	. .	54.1					h. m. s. ° ′ ″
		32.7	41.6	49.7	3 41.36	2 48.515	—0 9.48	— 14.980	Tauri ω^2, 4 9 19.70 +20 14 28.29
F.									
	Comet	41.1	. .	7.1					Comet—Tauri ω^2,
		45.2	53.8	2.5	5 53.94	3 53.551			Δ α Δ δ
	Tauri ω^2	48.9	. .	14.8					h. m. s. m. s. ′ ″
		53.8	. .	10.6	6 2.02	2 48.431	0 8.08	17.905	Sid. T. 6 2 11.97 — 0 9.04 — 4 11.42
									Δ ρ .00 — .08
	Comet	15.1	. .	40.5					p + 0.97 + 12.95
		19.2	27.8	36.6	7 27.84	3 55.352			
	Tauri ω	22.1	. .	47.9					
		. .	. .	43.7	7 35.01	2 48.431	0 7.17	19.706	
	Comet	57.1	. .	22.7					
		1.1	9.6	18.8	10 9.86	3 56.940			
	Tauri ω^2	2.7	. .	28.1					
		6.8	15.5	24.3	6 10 15.48	2 48.529	—0 5.62	21.196	
									m. s.
Feb. 8	Comet	46.1	. .	10.2	5 7 58.34	4 36.585			Corr. Chron. — 1 57.74
		50.2	58.4	6.8					α δ
	(* 128) W.	20.3	. .	45.0	8 32.68	2 43.671	—0 34.34	18.776	h. m. s. ° ′ ″
		24.5	32.6	41.0					(* 128) W., 4 41 3.32 +10 43 16.09
F.									
	Comet	9.7	. .	35.1	12 22.14	4 38.495			Comet—(* 128) W.,
		13.6	21.9	30.4					Δ α Δ δ
	(* 128) W.	42.5	. .	7.4	12 54.80	2 43.612	0 32.66	20.745	h. m. s. m. s. ′ ″
		46.2	54.8	3.1					Sid. T. 5 27 55.19 — 0 26.53 — 7 4.01
									Δ ρ . . — .16
	Comet	30.4	. .	55.2	15 42.76	4 39.843			p + 0.33 + 14.34
		34.5	42.8	50.9					
	(* 128) W.	1.9	. .	26.6	16 14.22	2 43.660	0 31.46	22.045	
		5.8	14.2	22.6					
	Comet	24.4	. .	48.7	19 36.70	4 41.621			
		28.5	36.7	45.2					
	(* 128) W.	54.3	. .	18.7	20 6.52	2 43.591	0 29.82	23.892	
		58.2	6.4	15.0					
	Comet	53.8	. .	18.6	24 6.20	4 42.542			
		57.8	6.1	14.7					
	(* 128) W,	. .	. .	47.1	24 34.76	2 43.629	0 28.56	24.775	
		26.3	34.8	43.3					
	Comet	28.6	. .	53.4	26 40.84	4 43.625			
		32.3	40.6	49.3					
	(* 128) W.	56.1	. .	20.9	27 8.52	2 43.520	0 27.68	25.967	
		0.0	8.6	17.0					
	Comet	42.1	. .	7.0	28 54.52	4 44.559			
		45.9	54.5	3.1					
	(* 128) W.	.	. .	33.7	29 21.19	2 43.581	0 26.67	26.840	
		12.6	21.3	29.6					
	Comet	39.0	. .	3.9	31 51.42	4 45.920			
		43.2	51.4	59.6					
	(* 128) W.	. .	. .	29.4	32 17.02	2 43.590	0 25.60	28.192	
		8.6	17.1	25.4					
	Comet	7.7	. .	32.4	34 20.20	4 46.753			
		12.0	20.2	28.7					
	(* 128) W.	. .	. .	57.3	34 44.92	2 43.671	0 24.72	28.944	
		36.7	45.1	53.1					
	Comet	53.2	. .	17.7	37 5.04	4 47.960			
		56.9	4.8	13.6					
	(* 128) W.	. .	. .	41.8	37 29.24	2 43.556	0 24.20	30.266	
		21.0	29.5	37.7					
	Comet	31.0	. .	56.2	40 43.44	4 49.137			
		35.1	43.3	51.6					
	(* 128) W.	. .	. .	18.8	5 41 6.36	2 43.700	—0 22.92	— 31.299	
		57.9	6.5	14.7					

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Feb. 8	Comet	53.9	. .	18.8	5 43 6.26	4 51.650			
		57.9	6.3	14.4					
	(* 128) W.	. .	. .	40.7	43 28.38	2 43.729	—0 22.12	— 33.783	
F.		20.0	28.4	36.8					
	Comet	27.2	. .	51.8	46 39.48	5 36.149			
		31.3	39.3	47.8					
	(* 128) W.	. .	. .	12.6	47 0.35	2 43.729	0 20.87	35.290	
		. .	0.3	8.6					
	Comet	1.7	. .	26.3	49 13.76	5 37.122			
		5.3	13.7	21.8					
	(* 128) W.	. .	. .	45 8	5 49 33.53	2 43.768	—0 19.77	— 36.224	
		. .	33.4	41.9					
Feb. 9	Weisse IV, 1028	36.1	44.4	53.0	5 14 44.50	1 45.050	+0 42.20	— 51.859	m. s. Corr. Chron. + 1 56.93
	Comet	18.4	26.7	35.0	15 26.70	4 53.916			α h. m. s. δ ° ′ ″
H.	Weisse IV, 1028	31.4	39.8	48.2	17 39.80	1 45.302	0 43.10	51.977	Weisse IV, 1028, 4 47 34.65 + 8 22 28.75
	Comet	14.4	23.0	31.3	18 22.90	4 54.286			Comet—Weisse IV, 1028,
	Weisse IV, 1028	42.5	50.7	59.0	19 50.73	1 45.276	0 43.50	52.910	△ α m. s. △ δ ′ ″
	Comet	26.0	34.3	42.4	20 34.23	4 55.193			h. m. s. Sid. T. 5 34 5.87 + 0 48.08 —15 2.30
	Weisse IV, 1028	44.7	53.0	1.8	24 53.17	1 45.460	0 44.80	54.343	Δ ρ .00 — 0.35
	Comet	29.7	37.9	46.3	25 37.97	4 56.810			p + 0.23 + 14.43
	Weisse IV, 1028	20.0	28.6	37.0	27 28.53	1 45.502	0 45.67	55.942	
	Comet	6.0	14.2	22.4	28 14.20	5 41.443			
	Weisse IV, 1028	31.9	40.1	48.4	29 40.13	1 45.473	0 46.44	56.908	
	Comet	18.1	26.8	34.8	30 26.57	5 42.380			
	Weisse IV, 1028	41.3	49.6	58.2	33 49.70	1 45.494	0 48.13	58.383	
	Comet	29.6	37.7	46.2	34 37.83	5 43.876			
	Weisse IV, 1028	50.7	59.0	7.3	35 59.00	1 45.670	0 48.17	59.115	
	Comet	39.0	47.1	55.4	36 47.17	5 44.784			
	Weisse IV, 1028	38.8	45.1	53.4	38 45.10	1 45.543	0 48.97	60.068	
	Comet	25.8	34.1	42.3	39 34.07	5 45.610			
	Weisse IV, 1028	50.1	58.4	6.9	41 58.47	1 45.784	0 50.00	61.070	
	Comet	40.1	48.3	57.0	42 48.47	5 46.853			
	Weisse IV, 1028	58.9	7.2	15.8	48 7.30	1 39.785	0 51.87	63.834	
	Comet	50.8	59.1	7.6	48 59.17	5 43.618			
	Weisse IV, 1028	56.0	4.6	13.0	51 4.53	1 39.893	0 52.67	64.737	
	Comet	49.1	57.0	5.5	51 57.20	5 44.629			
	Weisse IV, 1028	21.1	29.1	38.0	53 29.40	1 39.870	0 53.37	65.718	
	Comet	14.3	22.8	31.2	54 22.77	5 45.587			
	Weisse IV, 1028	47.4	55.7	4.0	55 55.70	1 39.870	+0 54.27	— 66.754	
	Comet	41.9	50.1	57.9	5 56 49.97	5 46.623			
Feb. 10	(* 8)	27.8	. .	51.6	4 56 39.50	5 36.879			m. s. Corr. Chron. — 1 56.45
		31.4	39.2	47.5					α h. m. s. δ ° ′
F.	(* 129) W.	. .	. .	. .	57 3.67	4 38.349	+0 5.45	+ 20.416	(* 129) W., 4 5 52.5 + 5 55
		55.2	3.5	12.3					
	Comet	57.0	. .	21.1	4 57 9.12	2 43.795			Comet—(* 129) W.,
		1.0	8.9	17.6					△ α m. s. △ δ ′ ″
	(* 8)	4.5	. .	28.7	5 0 16.70	5 37.185			h. m. s. Sid. T. 6 15 6.35 + 0 10.94 + 3 38.33
		8.7	16.6	25.0					Δ ρ .00 + .08
	(* 129) W.	29.2	. .	52.6	0 40.62	4 38.448	+0 6.43	+ 19.353	p + 0.12 + 14.32
		32.5	40.6	48.2					
	Comet	34.6	. .	59.0	0 47.05	3 32.172			
		38.8	. .	55.8					
	(* 9)	8.0	. .	32.9	5 1 20.54	3 36.303			
		12.0	20.6	29.2					

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Feb. 10	(* 129) W.	48.3	56.2	4.6	5 6 56.37	4 38.644	+0 8.49	— 17.792	
F.	Comet	56.9	4.9	12.8	7 4.86	3 33.929			
	(* 129) W.	8.5	17.2	25.2	8 16.97	4 38.621	0 8.70	16.488	
	Comet	. .	. .	33.9	8 25.67	2 47.995			
	(* 129) W.	20.7	28.9	37.5	11 29.03	4 38.622	0 9.77	16.069	
	Comet	30.3	38.9	47.2	11 38.80	3 35.630			
	(* 129) W.	6.7	14.9	22.8	14 14.80	4 38.642	0 9.90	15.094	
	Comet	16.5	24.7	32.9	14 24.70	3 36.625			
	(* 129) W.	20.6	29.2	37.4	16 29.07	4 38.835	0 10.73	14.514	
	Comet	31.6	39.9	47.9	16 39.80	3 37.398			
	(* 129) W.	2.2	10.5	18.8	19 10.50	4 38.740	0 11.57	13.436	
	Comet	13.9	21.9	30.4	19 22.07	3 38.381			
	(* 129) W.	57.1	59.3	7.4	20 59.27	4 38.964	0 12.06	13.279	
	Comet	2.8	11.4	19.8	21 11.33	3 38.762			
	(* 129) W.	53.4	1.8	9.8	23 1.67	4 38.641	0 12.76	12.055	
	Comet	6.4	14.2	22.7	23 14.43	3 39.663			
	(* 129) W.	34.4	42.6	51.2	25 42.73	4 38.760	0 13.44	11.288	
	Comet	48.0	56.2	4.3	25 56.17	3 40.549			
	(* 129) W.	44.6	52.9	1.2	27 52.90	4 38.929	0 13.87	10.896	
	Comet	58.6	6.9	14.8	28 6.77	3 41.110			
	(* 129) W.	58.8	7.0	15.2	31 7.00	4 38.895	0 14.57	9.560	
	Comet	13.4	21.1	30.2	31 21.57	3 42.412			
	(* 129) W.	53.4	1.6	9.6	33 1.53	4 38.891	+0 15.37	+ 9.058	
	Comet	8.4	16.8	25.5	5 33 16.90	3 42.910			
Feb. 11	Comet	51.9	0.6	8.5	5 25 0.33	4 31.643			
H.	Weisse V, 55	23.0	31.1	39.6	28 31.23	1 35.930	—3 30.90	— 38.706	
	Comet	47.0	55.8	3.4	29 55.40	4 33.060			
	Weisse V, 55	17.0	25.3	33.7	33 25.33	1 36.056	3 29.93	39.997	
	Comet	55.7	4.0	12.1	35 3.93	4 34.620			
	Weisse V, 55	24.2	32.5	41.0	38 32.57	1 35.932	3 28.64	41.681	
	Comet	6.7	15.0	23.4	40 15.03	4 35.981			
	Weisse V, 55	34.4	42.2	51.0	43 42.53	1 36.078	3 27.50	42.896	
	Comet	23.3	31.6	39.7	45 31.53	4 37.405			
	Weisse V, 55	49.9	58.2	6.5	48 58.20	1 35.956	3 26.67	44.442	
	Comet	58.5	7.4	15.2	51 7.03	4 39.124			
	Weisse V, 55	24.0	32.3	40.8	54 32.37	1 35.904	3 25.34	46.213	
	Comet	59.2	7.7	16.1	5 58 7.67	4 41.130			
	Weisse V, 55	23.1	31.2	39.8	6 1 31.37	1 36.072	3 23.70	48.051	
	Comet	42.4	50.5	59.0	2 50.63	4 42.438			
	Weisse V, 55	4.7	12.7	21.4	6 12.93	1 36.041	3 22.30	49.390	
	Comet	3.3	11.5	20.0	8 11.60	4 44.354			
	Weisse V, 55	24.3	32.9	41.2	11 32.80	1 36.007	3 21.20	51.340	
	Comet	16.3	24.2	33.0	13 24.50	4 46.803			
	Weisse V, 55	36.2	44.4	52.7	6 16 44.43	1 36.230	—3 19.93	— 53.566	
Feb. 12	(* 130) W.	18.9	. .	43.8	8 7 30.94	2 29.571	+0 13 48	+ 1.411	
		22.3	30.7	39.0					
H.	Comet	32.4	. .	56.6	8 7 44.42	2 28.160			
		36.1	44.2	52.8					

m. s.
Corr. Chron. — 1 54.81

	α h. m. s.	δ ° ′ ″
Weisse V, 55,	5 4 34.76	+ 4 14 12.26

Comet—Weisse V, 55,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	5 47 1.95	— 3 25.61	—11 39.81
	Δ ρ	.00	— 0.25
	p +	.25	+ 14.52

(Continued.)

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 12	(* 130) W.	25.4	. .	49.2	8 9 37.18	2 29.600	+0 14.08	+ 1.113
		28.9	37.0	45.4				
F.	Comet	39.0	. .	4.2	9 51.26	2 28.487		
		42.5	51.2	59.4				
	(* 130) W.	28.9	. .	3.2	11 51.00	2 29.417	0 14.58	+ 0.454
		42.8	50.8	59.3				
	Comet	53.6	. .	17.5	12 5.58	2 28.963		
		57.5	5.5	13.8				
	(* 130) W.	28.9	. .	. .	14 41.10	2 29.298	0 14.70	— 0.352
		32.6	40.8	49.9				
	Comet	43.9	. .	8.1	14 55.80	2 29.650		
		. .	55.7	4.1				
	(* 130) W.	56.3	. .	20.3	18 8.20	2 29.349	0 15.32	1.001
		59.8	8.2	16.4				
	Comet	. .	. .	35.5	18 23.52	2 30.350		
		14.9	23.8	31.8				
	(* 130) W.	51.2	. .	15.4	20 3.14	2 29.229	0 16.16	1.810
		54.9	2.9	11.3				
	Comet	6.9	. .	31.4	20 19.30	2 31.039		
		11.3	19.3	27.6				
	(* 130) W.	21.1	. .	44.7	22 33.00	2 29.228	+0 15.64	— 2.112
		24.9	32.9	41.4				
	Comet	. .	. .	. .	8 22 48.64	2 31.340		
		40.6	48.6	. .				
Feb. 13	Comet	12.0	20.2	28.5	4 42 20.23	3 37.930		
	(* 131) W.	36.2	44.8	52.8	43 44.60	3 30.344	—1 24.37	— 7.586
H.	Comet	17.0	25.2	33.2	45 25.13	3 38.283		
	(* 131) W.	40.6	48.9	57.1	46 48.87	3 30.294	1 23.74	7.989
	Comet	46.0	54.2	2.0	47 54.07	3 39.153		
	(* 131) W.	9.3	17.4	25.8	49 17.50	3 30.600	1 23.43	8.553
	Comet	12.0	20.3	28.5	50 20.27	3 39.754		
	(* 131) W.	34.9	43.2	51.2	51 43.10	3 30.584	1 22.83	9.170
	Comet	9.5	18.4	26.9	53 18.27	3 40.512		
	(* 131) W.	32.6	40.6	49.2	54 40.80	3 30.553	1 22.53	9.959
	Comet	42.5	50.6	59.0	55 50.70	3 40.980		
	(* 131) W.	4.4	12.7	21.3	57 12.80	3 30.770	1 22.10	10.210
	Comet	18.3	26.7	35.0	58 26.67	3 41.860		
	(* 131) W.	39.8	48.1	56.2	4 59 48.03	3 30.753	1 21.36	11.107
	Comet	20.0	28.4	36.7	5 1 28.37	3 42.360		
	(* 131) W.	40.8	49.1	57.4	5 2 49.10	3 30.653	—1 20.73	— 11.707

RESULTS.

m. s.
Corr. Chron. — 1 53.19

	α h. m. s.	δ ° ′ ″
(* 130) W.,	5 6 43.75	+ 2 10 58.17

Comet—(* 130) W.,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	8 13 16.60	+ 0 14.85	— 0 5.03
	Δ ρ	.00	.00
	p	+ 0.88	+ 17.26

m. s.
Corr. Chron. — 1 50.03

	α h. m. s.	δ ° ′ ″
(* 131) W.,	5 12 26.93	+ 0 58 29.00

Comet—(* 131) W.,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	4 50 2.93	— 1 22.64	— 2 26.24
	Δ ρ	.00	— .06
	p	— .10	+ 13.54

CONCORDIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Mar. 9	Concordia . . .	9.9	19.2	27.6	9 7 18.90	4 37.000	— 0 3.45	+ 16.370	Corr. Chron. — 1 1.04
F.	2. Weisse VIII, 490	. .	22.3	31.4	7 22.35	5 36.362			α δ
	Concordia* . . .	. .	18.6	. .	11 18.6	4 36.820	0 5.2	+ 16.608	h. m. s. ° ′ ″
	2. Weisse VIII, 490	. .	23.8	. .	11 23.8	5 36.420			2. Weisse VIII, 490, 8 21 51.13 +16 39 19.25
	Concordia . . .	. .	57.6	. .	15 57.6	. . .	0 3.8		Concordia—2. Weisse VIII, 490,
	2. Weisse VIII, 490	. .	1.4	. .	16 1.4				△ α △ δ
	Concordia . . .	. .	31.5	. .	16 31.5	. . .	0 2.5		h. m. s. m. s. ′ ″
	2. Weisse VIII, 490	. .	34.0	. .	16 34.0				Sid. T. 9 13 7.36 — 0 3.71 + 4 12.90
	Concordia . . .	. .	42.0	. .	16 42.0	. . .	0 3.4		Δ ρ .00 + .08
	2. Weisse VIII, 490	. .	45.4	. .	16 45.4				p + .06 + 1.82
	Concordia . . .	. .	1.8	. .	17 1.8	. . .	— 0 3.9		
	2. Weisse VIII, 490	. .	5.7	. .	9 17 5.7				

* The planet would bear scarce any illumination. The observation is consequently uncertain.

PHOCÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s,	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Apr. 7	Phocæa	57.9	6.5	15.0	11 25 6.47	2 43.464			Corr. Chron. — 0 13.71
	Oeltzen S. 12629 .	12.4	21.1	29.7	25 21.07	4 36.584	—0 14.60	+ 18.982	α δ
H.									h. m. s. ° ′ ″
	Phocæa	3.3	11.9	20.2	27 11.80	2 43.372			Oeltzen S. 12629, 12 57 52.65 —16 56 54.59
	Oeltzen S. 12629 .	18.0	26.4	35.1	27 26.50	4 36.580	0 14.70	19.070	
									Phocæa—Oeltzen S. 12629,
	Phocæa	8.0	16.6	25.3	29 16.63	2 43.297			△ α △ δ
	Oeltzen S. 12629 .	. .	31.3	40.0	29 31.33	4 36.588	0 14.70	19.153	h. m. s. m. s. ′ ″
									Sid. T. 11 47 6.86 — 0 15.43 + 5 5.16
	Phocæa	50.0	58.6	7.0	33 58.53	2 43.259			Δ ρ .00 + .29
	Oeltzen S. 12629 .	4.7	13.3	22.2	34 13.40	4 36.685	0 14.87	19.288	p — .10 + 4.86
	Phocæa	14.0	22.4	31.0	38 22.47	2 43.150			
	Oeltzen S. 12629 .	29.1	37.7	46.3	38 37.70	4 36.764	0 15.23	19.476	
	Phocæa	2.4	11.1	20.0	40 11.17	2 43.020			
	Oeltzen S. 12629 .	17.7	26.5	35.1	40 26.43	4 36.744	0 15.26	19.586	
	Phocæa	51.6	0.2	8.8	41 0.20	2 43.088			
	Oeltzen S. 12629 .	6.7	15.3	. .	41 15.30	4 36.915	0 15.13	19.689	
	Phocæa	37.1	45.6	54.2	43 45.63	2 43.089			
	Oeltzen S. 12629 .	52.2	0.9	9.6	44 0.90	4 36.940	0 15.27	19.713	
	Phocæa	20.1	28.8	37.3	45 28.73	2 43.038			
	Oeltzen S. 12629	35.3	44.0	52.8	45 44.03	4 37.039	0 15.30	19.863	
	Phocæa	16.6	25.2	33.8	47 25.20	2 43.042			
	Oeltzen S. 12629 .	31.9	40.4	49.1	47 40.47	4 36.981	0 15.27	19.801	
	Phocæa	55.5	4.3	12.7	49 4.17	2 43.007			
	Oeltzen S. 12629 .	11.0	19.7	28.4	49 19.70	4 36.940	0 15.53	19.794	
	Phocæa	51.1	59.6	. .	53 59.75	2 42.900			
	Oeltzen S. 12629 .	6.4	15.2	24.0	54 15.20	4 37.186	0 15.45	20.148	
	Phocæa	30.7	39.4	. .	55 39.33	2 42.837			
	Oeltzen S. 12629 .	46.7	55.2	3.8	55 55.23	4 37.385	0 15.90	20.410	
	Phocæa	59.8	8.5	. .	57 8.57	2 42.826			
	Oeltzen S. 12629 .	15.3	24.2	33.0	57 24.17	4 37.340	0 15.60	20.376	
	Phocæa	49.2	57.9	. .	58 57.93	2 42.832			
	Oeltzen S. 12629 .	5.2	14.0	22.6	11 59 13.93	4 37.449	0 16.00	20.479	
	Phocæa	37.3	46.2	. .	12 0 46.13	2 42.786			
	Oeltzen S. 12629 .	53.3	2.2	10.9	1 2.13	4 37.406	0 16.00	20.482	
	Phocæa	13.2	21.8	. .	2 21.80	2 42.740			
	Oeltzen S. 12629 .	29.2	38.0	46.5	2 37.90	4 37.404	0 16.10	20.526	
	Phocæa	52.7	1.2	. .	4 1.32	2 42.770			
	Oeltzen S. 12629 .	8.7	17.3	26.1	4 17.37	4 37.404	0 16.05	20.496	
	Phocæa	36.6	45.0	. .	5 45.17	2 42.670			
	Oeltzen S. 12629 .	52.7	1.3	10.1	12 6 1.37	4 37.530	—0 16.20	+ 20.722	
									m. s.
Apr. 18	Phocæa	24.0	. .	40.8	9 54 32.40	2 34.563			Corr. Chron. — 4 6.99
	Weisse XII, 834 .	29.7	38.0	46.5	55 38.07	5 35.921	—1 5.67	+ 44.228	α δ
F.									h. m. s. ° ′ ″
	Phocæa	25.7	34.5	43.0	9 59 34.40	2 34.320			Weisse XII, 834, 12 49 21.15 —14 12 53.95
	Weisse XII, 834 .	. .	40.2	48.5	10 0 40.07	5 36.065	1 5.67	44.615	
									Phocæa—Weisse XII, 384,
	Phocæa	0.5	8.8	17.5	4 8.93	2 34.199			△ α △ δ
	Weisse XII, 834 .	6.5	. .	23.0	10 5 14.75	5 36.139	—1 5.82	+ 44.810	h. m. s. m. s. ′ ″
									M. T. 9 55 18.25 — 1 5.72 +11 23.30
									Δ t — .18 . . .
									Δ ρ + .01 + .58
									p — .14 + 4.82

PHOCÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Apr. 19	Phocæa	25.2	33.7	42.3	12 2 33.73	3 41.964		
	Weisse XII, 857	49.0	57.3	6.0	5 57.43	1 39.104	—3 23.70	— 32.776
H.	Phocæa	31.9	40.4	49.0	8 40.43	3 41.835		
	Weisse XII, 857	55.7	4.2	12.7	12 4.20	1 39.207	3 23.77	32.544
	Phocæa	34.8	43.2	52.0	25 43.33	3 41.490		
	Weisse XII, 857	59.3	7.9	16.2	29 7.80	1 39.596	3 24.47	31.810
	Phocæa	40.2	49.0	57.1	30 48.77	3 41.480		
	Weisse XII, 857	4.7	13.2	21.8	34 13.23	1 39.659	3 24.46	31.737
	Phocæa	52.4	1.1	9.3	36 0.93	3 41.358		
	Weisse XII, 857	17.3	26.0	34.2	39 25.83	1 39.833	3 24.90	31.441
	Phocæa	37.1	45.6	54.0	40 45.57	3 41.084		
	Weisse XII, 857	2.0	10.4	19.0	44 10.47	1 39.780	3 24.90	31.220
	Phocæa	31.8	40.8	48.9	45 40.50	3 40.902		
	Weisse XII, 857	57.2	5.6	14.0	49 5.60	1 39.937	3 25.10	30.881
	Phocæa	25.4	34.0	42.3	52 33.90	3 40.695		
	Weisse XII, 857	50.7	59.1	7.7	55 59.17	1 39.895	3 25.27	30.716
	Phocæa	17.8	26.0	34.7	12 57 26.17	3 40.582		
	Weisse XII, 857	43.1	51.6	0.2	13 0 51.63	1 39.964	3 25.46	30.534
	Phocæa	39.0	47.4	56.0	2 47.47	3 40.194		
	Weisse XII, 857	5.0	13.2	21.7	13 6 13.30	1 40.029	3 25.83	— 30.081
Apr. 23		16.1	. .	41.1				
	Phocæa	20.0	28.3	37.1	13 41 28.52			
H.		17.4	. .	42.4				
	Weisse XII, 743	21.4	29.7	38.6	41 29.90	. . .	0 1.38	
		15.9	. .	41.1				
	Phocæa	19.9	28.2	37.1	42 28.44			
		17.4	. .	42.5				
	Weisse XII, 743	21.3	29.8	38.5	42 29.90	. . .	0 1.46	
		57.1	. .	22.0				
	Phocæa	0.7	9.4	18.0	43 9.44			
		58.4	. .	23.4				
	Weisse XII, 743	2.2	11.0	19.5	43 10.90	. . .	0 1.46	
		43.3	. .	8.0				
	Phocæa	47.0	55.7	4.2	43 55.64			
		44.6	. .	9.5				
	Weisse XII, 743	48.4	57.2	5.7	43 57.08	. . .	0 1.44	
		14.1	. .	39.3				
	Phocæa	18.2	26.6	35.0	45 26.64			
		15.7	. .	40.9				
	Weisse XII, 743	19.7	28.3	36.9	45 28.30	. . .	0 1.66	
		2.1	. .	27.1				
	Phocæa	6.1	14.6	23.2	46 14.62			
		3.8	. .	28.7				
	Weisse XII, 743	7.7	16.2	24.7	46 16.22	. . .	—0 1.60	
	Phocæa	. . .	. . .	. . .	47 29.50	4 50.576		
	Weisse XII, 743	. . .	. . .	. . .	. . . .	3 43.953	. . .	+ 19.700
	Phocæa	. . .	. . .	. . .	49 10.00	4 50.578		
	Weisse XII, 743	. . .	. . .	. . .	. . . .	3 43.816	. . .	19.839
	Phocæa	. . .	. . .	. . .	50 35.40	4 50.673		
	Weisse XII, 743	. . .	. . .	. . .	. . .	3 43.874	. . .	19.876
	Phocæa	. . .	. . .	. . .	51 59.30	4 50.675		
	Weisse XII, 743	. . .	. . .	. . .	. . . .	3 43.776	. . .	19.976
	Phocæa	. . .	. . .	. . .	13 53 22.90	4 50.720		
	Weisse XII, 743	. . .	. . .	. . .	. . . .	3 43.615	. . .	+ 20.182

RESULTS.

m. s.
Corr. Chron. — 0 4.49

	α (h. m. s.)	δ (° ′ ″)
Weisse XII, 857,	12 50 50.87	—13 36 50.56

Phocæa—Weisse XII, 857,

	h. m. s.	Δ α (m. s.)	Δ δ (′ ″)
Sid. T.	12 36 13.59	— 3 24.79	— 8 1.19
		Δ ρ .00	— .36
		p — .02	+ 4.90

m. s.
Corr. Chron. — 0 3.19

	α (h. m. s.)	δ (° ′ ″)
Weisse XII, 743,	12 44 13.20	—12 44 19.08

Phocæa—Weisse XII, 743,

	h. m. s.	Δ α (m. s.)	Δ δ (′ ″)
Sid. T.	12 55 40.18	— 0 1.88*	+ 5 8.21
		Δ ρ .00	+ .23
		p + .11	+ 4.79

* Reduced to the time of the observed Δ δ.

PHOCÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ *a*	Δ mic.	RESULTS.
1864.	–	s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Apr. 23	Phocæa	. .	. .	. .	13 55 32.60	4 50.826			
	Weisse XII, 743 .	. .	. .	. .	. . . .	3 43.857	. . .	+ 20.046	
H.									
	Phocæa	. .	. .	. .	56 57.40	4 51.003			
	Weisse XII, 743 .	. .	. .	. .	. . . .	3 43.940	. . .	20.140	
	Phocæa	. .	. .	. .	58 17.40	4 50.913			
	Weisse XII, 743 .	. .	. .	. .	. . . .	3 43.807	. . .	20.183	
	Phocæa	. .	. .	. .	13 59 40.70	4 51.017			
	Weisse XII, 743 .	. .	. .	. .	. . . .	3 43.803	. . .	20.291	
	Phocæa . . .	. .	. .	. .	14 0 41.20	4 51.098			
	Weisse XII, 743 .	. .	. .	. .	. . . .	3 43.920	. . .	20.255	
	Phocæa	. .	. .	. .	1 51.70	4 51.000			
	Weisse XII, 743 .	. .	. .	. .	. . . .	3 43.867	. . .	20.210	
	Phocæa	. .	. .	. .	3 2.30	4 51.223			
	Weisse XII, 743 .	. .	. .	. .	. . . .	3 43.860	. . .	+ 20.440	
		30.0	. .	55.0					
	Phocæa	33.9	42.4	51.1	4 42.48				
		32.1	. .	57.1					
	Weisse XII, 743 .	36.0	44.7	53.2	4 44.62	. . .	—0 2.14		
		9.8	. .	34.8					
	Phocæa	13.7	22.2	30.7	5 22.24				
		12.0	. .	36.9					
	Weisse XII, 743 .	16.0	24.5	32.9	5 24.46	. . .	0 2.22		
		50.0							
	Phocæa	53.9	2.5	10.7	6 2.38				
		52.1	. .	17.0					
	Weisse XII, 743 .	56.1	4.6	13.1	6 4.58	. . .	0 2.20		
		29.4	. .	54.4					
	Phocæa	33.3	42.0	50.4	6 41.90				
		31.6	. .	56.5					
	Weisse XII, 743 .	35.6	44.0	52.6	6 44.06	. . .	0 2.16		
		7.0	. .	31.6					
	Phocæa	10.7	19.2	27.7	7 19.24				
		9.0	. .	34.1					
	Weisse XII, 743 .	13.0	21.6	30.1	7 21.56	. . .	0 2.32		
		45.7	. .	11.0					
	Phocæa	49.7	58.4	6.7	7 58.30				
		48.0	. .	13.1					
	Weisse XII, 743 .	52.0	0.6	9.0	14 8 0.54	. . .	—0 2.24		
Apr. 25	Phocæa	5.2	13.7	22.1	11 51 13.67	1 44.642			
	Weisse XII, 728 .	29.0	37.4	45.8	51 37.40	3 50.392	—0 23.73	+ 35.666	
F.									
	Phocæa	15.8	24.0	32.4	53 24.07	1 44.580			
	Weisse XII, 728 .	39.5	47.5	56.4	53 47.80	3 50.379	0 23.73	35.715	
	Phocæa	11.6	20.9	29.3	56 20.93	1 44.449			
	Weisse XII, 728 .	36.6	44.8	53.2	11 56 44.87	3 50.405	—0 23.94	+ 35.872	

m. s.
Corr. Chron. — 0 2.37

	a	*δ*
	h. m. s.	° ′ ″
Weisse XII, 728,	12 43 26.32	—12 17 45.88

Phocæa—Weisse XII, 728,

		△ *a*	△ *δ*
	h. m. s.	m. s.	′ ″
Sid. T.	11 53 37.19	— 0 23.80	+ 9 8.32
	Δ *ρ*	.00	+ .39
	p	— .07	+ 4.75

EUROPA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.		m. s.	revs.	
Apr. 26 H.	Weisse XIII, 354 .	39.2	47.5	55.7	12 43 47.47	1 48.360	+0 48.26	— 16.128	m. s. Corr. Chron. — 0 2.18
	Europa	27.7	35.6	43.9	44 35.73	2 47.357			α δ h. m. s. ° ′ ″
	Weisse XIII, 354 .	56.4	4.6	13.0	46 4.67	1 48.353	0 48.06	16.317	Weisse XIII, 354, 13 22 41.11 + 2 24 35.33
	Europa	44.5	52.6	1.1	46 52.73	2 47.539			Europa—Weisse XIII, 354,
	Weisse XIII, 354 .	53.2	1.5	9.8	48 1.50	1 48.480	0 48.03	16.227	△ α △ δ h. m. s. m. s. ′ ″
	Europa	41.2	49.4	58.0	48 49.53	2 47.576			Sid. T. 12 56 48.64 + 0 47.71 — 4 8.48
	Weisse XIII, 354 .	9.8	17.8	26.0	51 17.87	1 48.420	0 48 00	16.260	Δ ρ .00 — .13
	Europa	57.6	6.0	14.0	51 5.87	2 47.549			p — .03 + 2.32
	Weisse XIII, 354 .	24.0	32.2	40.4	52 32.20	1 48.446	0 47.87	16.285	
	Europa	12.0	19.9	28.3	53 20.07	2 47.600			
	Weisse XIII, 354 .	3.3	11.3	19.9	58 11.50	1 48.575	0 47.53	16.247	
	Europa	50.8	59.0	7.3	12 58 59.03	2 46.691			
	Weisse XIII, 354 .	56.3	4.7	13.0	13 1 4.67	1 48.711	0 47.46	16.210	
	Europa	43.9	52.0	0.5	1 52.13	2 47.790			
	Weisse XIII, 354 .	3.4	11.9	20.0	4 11.77	1 48.756	0 47.36	16.106	
	Europa	50.8	59.3	7.3	4 59.13	2 47.731			
	Weisse XIII, 354 .	45.2	53.6	1.9	6 53.57	1 48.684	0 47.26	16.201	
	Europa	32.6	40.8	49.1	7 40.83	2 47.754			
	Weisse XIII, 354 .	17.7	25.9	34.2	9 25.93	1 48.379	+0 47.27	— 16.026	
	Europa	5.1	13.2	21.3	13 10 13.20	2 47.274			
Apr. 28 H.	Europa	0.4	8.6	16.7	12 12 8.57	2 40.855			m. s.
	Weisse XIII, 354 .	29.4	37.7	46.0	12 37.70	3 35.890	—0 29.13	+ 7.820	Corr. Chron. — 0 1.40
	Europa	31.0	39.3	47.6	14 39.30	2 41.022			α δ h. m. s. ° ′ ″
	Weisse XIII, 354 .	0.3	8.6	16.9	15 8.60	3 35.929	0 29.30	7.692	Weisse XIII, 354 13 22 41.11 + 2 24 34.00
	Europa	1.0	9.0	17.3	17 9.10	2 41.078			Europa—Weisse III, 354,
	Weisse XIII, 354 .	30.2	38.5	46.7	17 38.47	3 35.990	0 29.37	7.697	△ α △ δ h. m. s. m. s. ′ ″
	Europa	50.6	58.8	6.9	18 58.77	2 40.940			Sid. T. 12 25 36.32 — 0 29.60 + 2 0.28
	Weisse XIII, 354 .	20.0	28.1	36.4	19 28.17	3 36.024	0 29.40	7.869	Δ ρ .00 + .05
	Europa	2.0	10.2	18.7	21 10.30	2 41.078			p — .05 + 2.32
	Weisse XIII, 354 .	31.5	39.8	48.0	21 39.77	3 35.995	0 29.47	7.702	
	Europa	54.0	2.3	10.4	23 2.23	2 40.966			
	Weisse XIII, 354 .	23.5	31.8	40.1	23 31.80	3 36.004	0 29.57	7.823	
	Europa	41.4	50.0	57.9	24 49.77	2 41.083			
	Weisse XIII, 354 .	11.0	19.2	27.5	25 19.27	3 36.046	0 29.50	7.748	
	Europa	30.5	38.8	46.9	26 38.73	2 41.102			
	Weisse XIII, 354 .	0.2	8.3	16.7	27 8.40	3 36.105	0 29.67	7.788	
	Europa	11.0	19.2	27.3	28 19.17	2 41.025			
	Weisse XIII, 354 .	40.5	48.9	57.0	28 48.80	3 36.150	0 29.63	7.910	
	Europa	56.2	4.4	. .	30 4.40	2 40.980			
	Weisse XIII, 354 .	25.9	34.1	42.3	30 34.10	3 36.168	0 29.70	7.973	
	Europa	39.4	47.8	. .	32 47.75	2 41.095			
	Weisse XIII, 354 .	9.2	17.5	25.8	33 17.50	3 36.191	0 29.75	7.881	
	Europa	21.6	29.9	38.1	34 29.87	2 41.121			
	Weisse XIII, 354 .	51.3	59.7	8.0	34 59.67	3 36.177	0 29.80	7.841	
	Europa	15.4	23.7	32.0	36 23.70	2 40.970			
	Weisse XIII, 354 .	45.6	53.8	1.8	36 53.73	3 36.236	0 30.03	8.051	
	Europa	58.1	6.5	14.6	38 6.40	2 41.015			
	Weisse XIII, 354 .	28.1	36.4	44.8	12 38 36.43	3 36.217	—0 30.03	+ 7.987	

EUROPA

DATE	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Apr. 29	Europa	54.5	2.7	10.7	11 54 2.63	2 40.580			m. s. Corr. Chron. — 0 1.02
	Weisse XIII, 351	53.9	2.0	10.5	55 2.13	5 41.832			α δ
	Weisse XIII, 354	1.4	9.6	17.8	55 9.60	3 46.420	—1 6.97	+ 18.625	h. m. s. ° ′ ″
F.									Weisse XIII, 354, 13 22 41.11 — 2 24 35.57
	Europa	40.7	49.1	57.4	57 49.07	2 40.725			
	(* 12)	7.9	16.2	. .	58 16.22	2 32.845			Europa—Weisse XIII, 354,
	Weisse XIII, 354	47.9	56.3	4.7	11 58 56.30	4 33.618	1 7.23	18.755	△ α △ δ
									h. m. s. m. s. ′ ″
	Europa	50.5	58.5	7.0	12 0 58.67	2 40.849			Sid. T. 12 30 18.01 — 1 7.99 + 4 51.52
	Weisse XIII, 354	57.5	. .	14.2	2 5.85	3 46.690	1 7.18	18.626	Δ ρ .00 + .13
									p — .04 + 2.32
	Europa	. .	. .	44.6	3 36.30	2 40.810			
	Weisse XIII, 354	. .	43.3	51.6	4 43.30	3 46.751	1 7.00	18.726	
	Europa	51.2	59.4	7.6	11 59.40	2 40.985			
	(* 12)	18.9	26.7	35.5	12 27.03	2 33.499			
	Weisse XIII, 354	58.6	6.8	15.2	13 6.87	4 33.945	1 7.47	18.822	
	Europa	23.5	31.4	40.0	15 31.63	2 40.965			
	Weisse XIII, 354	30.9	39.1	47.4	16 39.13	4 34.055	1 7.50	18.952	
	Europa	7.2	15.1	23.4	18 15.23	2 41.049			
	Weisse XIII, 354	14.5	22.8	31.1	19 22.80	4 34.160	1 7.57	18.973	
	Europa	34.2	42.4	50.4	20 42.33	2 40.962			
	Weisse XIII, 354	41.7	50.0	58.3	21 50.00	3 47.121	1 7.67	18.944	
	Europa	5.5	13.6	22.1	25 13.73	2 41.150			
	Weisse XIII, 354	13.4	21.5	29.8	26 21.57	3 47.249	1 7.84	18.884	
	Europa	15.3	23.4	31.3	29 23.33	2 41.120			
	Weisse XIII, 354	23.1	31.2	39.5	30 31.27	3 47.372	1 7.94	19.037	
	Europa	31.6	39.8	48.1	34 39.83	2 41.272			
	Weisse XIII, 354	39.7	47.8	56.3	35 47.93	3 47.525	1 8.10	19.038	
	Europa	45.8	54.2	2.5	38 54.17	2 41.209			
	Weisse XIII, 354	53.9	2.4	10.6	40 2.30	3 47.480	1 8.13	19.056	
	Europa	59.3	7.4	15.6	41 7.43	2 41.193			
	Weisse XIII, 354	7.5	15.6	23.8	42 15.63	3 47.761	1 8.20	19.353	
	Europa	23.0	31.2	39.3	43 31.17	2 41.290			
	Weisse XIII, 354	31.3	39.5	48.0	44 39.60	3 47.779	1 8.43	19.273	
	Europa	45.4	53.3	1.7	45 53.47	2 41.391			
	Weisse XIII, 354	53.6	1.8	10.2	47 1.87	3 47.859	1 8.40	19.253	
	Europa	55.5	3.8	11.9	48 3.73	2 41.472			
	Weisse XIII, 354	4.2	12.5	20.7	49 12.47	3 47.780	1 8.74	19.093	
	Europa	18.8	27.2	35.5	54 27.17	2 41.708			
	Weisse XIII, 354	27.7	35.8	44.3	55 35.93	3 48.049	1 8.76	19.126	
	Europa	5.4	13.3	21.7	57 13.47	2 41.720			
	Weisse XIII, 354	13.9	22.2	30.5	12 58 22.20	3 48.049	1 8.73	19.114	
	Europa	8.7	17.3	25.5	13 1 17.17	2 41.752			
	Weisse XIII, 354	17.9	. .	34.4	2 26.15	3 48.220	1 8.98	19.253	
	Europa	25.1	33.5	41.8	3 33.47	2 41.778			
	Weisse XIII, 354	34.3	42.5	50.8	13 4 42.53	3 48.260	1 9.06	19.267	
									m. s.
May 4	Europa	47.2	55.1	3.6	11 29 55.30	1 44.992			Corr. Chron. + 0 1.78
	Weisse XIII, 343	52.5	1.8	10.1	31 1.80	5 44.759	1 6.50	59.768	α δ
F.									h. m. s. ° ′ ″
	Europa	57.0	5.2	13.6	34 5.27	1 37.885			Weisse XIII, 303, 13 19 41.53 + 2 26 16.84
	Weisse XIII, 343	3.5	11.6	19.9	35 11.67	5 37.695	1 6.40	59.811	
									Europa—Weisse XIII, 303,
	Europa	17.6	25.9	34.3	36 25.93	1 37.921			△ α △ δ
	Weisse XIII, 303	24.5	32.8	41.2	37 32.83	5 37.722	1 6.90	59.802	h. m. s. m. s. ′ ″
									Sid. T. 11 44 53.59 — 1 6.90 +15 17.07
	Europa	19.2	27.2	35.3	38 27.23	1 37.973			Δ ρ .00 + .42
	Weisse XIII, 303	25.5	33.8	42.1	11 39 33.80	5 37.661	—1 6.57	+ 59.689	p — .08 + 2.29

EUROPA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
May 4	Europa	35.7	44.0	52.3	11 41 44.00	1 38.105			
F.	Weisse XIII, 303 .	42.6	50.7	59.2	42 50.83	5 37.790	—1 6.83	+ 59.686	
	Europa	42.9	51.0	59.3	43 51.07	1 38.062			
	Weisse XIII, 303 .	49.7	57.8	6.2	44 57.90	5 37.812	1 6.83	59.751	
	Europa	11.5	19.6	28.2	46 19.77	1 38.175			
	Weisse XIII, 303 .	18.5	26.5	35.0	47 26.67	5 38.011	1 6.90	59.837	
	Europa	57.5	5.6	14.0	49 5.70	1 38.252			
	Weisse XIII, 303 .	4.5	12.8	21.0	50 12.77	5 37.991	1 7.07	59.739	
	Europa	58.1	6.2	14.4	51 6.23	1 38.221			
	Weisse XIII, 303 .	5.2	13.4	21.5	52 13.37	5 38.008	1 7.14	59.788	
	Europa	1.6	9.5	18.1	53 9.73	1 38.265			
	Weisse XIII, 303 .	8.6	16.7	25.3	54 16.87	5 38.145	1 7.14	59.881	
	Europa	57.2	5.5	13.8	56 5.50	1 38.269			
	Weisse XIII, 303 .	4.6	12.8	21.2	57 12.87	5 38.125	1 7.37	59.857	
	Europa	9.5	17.6	26.2	58 17.77	1 38.401			
	Weisse XIII, 303 .	16.6	24.9	33.4	11 59 24.97	5 38.301	—1 7.20	+ 59.901	

CIRCE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ *a*	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
May 4	Weisse XIV, 1144 .	30.2	38.6	47.1	13 32 38.63	2 39.850			m. s. Corr. Chron. + 0 2.19
	Weisse XIV, 1149 .	46.0	54.0	3.0	32 54.33	3 42.222	+2 53.37	+ 4.890	*a* *δ*
F.	Circe	39.4	47.5	56.2	35.47.70	3 37.332			h. m. s. ° ′ ″
									Weisse XIV, 1149, 15 1 34.54 —11 16 9.89
	Weisse XIV, 1144 .	46.6	55.0	3.2	38 54.93	2 39.950			
	Weisse XIV, 1149 .	2.4	10.9	19.2	39 10.83	3 42.341	2 52.95	4.919	Circe—Weisse XIV, 1149,
	Circe	55.5	3.7	12.1	42 3.78	3 37.422			Δ *a* Δ *δ*
									h. m. s. m. s. ′ ″
	Weisse XIV, 1149 .	42.7	51.4	59.5	43 51.20	3 42.859	+2 52.57	+ 4.799	Sid. T. 13 41 33.94 + 2 52.98 + 1 14.68
	Circe	35.6	43.7	52.0	13 46 43.77	3 38.060			Δ ρ .00 + .05
									p — .10 + 4.09
May 5	Weisse XV, 3 . .	7.4	16.0	24.4	13 27 15.93	2 38.574	+1 19.64	— 24.525	m. s. Corr. Chron. + 0 2.67
	Circe	27.1	35.6	44.0	28 35.57	4 37.237			*a* *δ*
H.									h. m. s. ° ′ ″
	Weisse XV, 3 . .	9.1	17.6	25.8	30 17.50	2 38.833	1 19.77	24.274	Weisse XV, 3, 15 2 17.67 —11 3 21.92
	Circe	29.0	37.1	45.7	31 37.27	4 37.245			
									Circe—Weisse XV, 3,
	Weisse XV, 3 . .	9.4	18.0	26.5	34 17.97	2 39.004	1 19.60	24.281	Δ *a* Δ *δ*
	Circe	29.1	37.6	46.0	35 37.57	4 37.423			h. m. s. m. s. ′ ″
									Sid. T. 13 46 18.34 + 1 19.18 — 6 10.44
	Weisse XV, 3 . .	48.3	56.7	5.1	36 56.70	2 38.990	1 19.50	24.211	Δ ρ .00 — .27
	Circe	7.8	16.1	24.7	38 16.20	4 37.339			*p* — .09 + 4.09
	Weisse XV, 3 . .	25.8	34.1	42.5	39 34.13	2 39.031	1 19.34	24.223	
	Circe	45.0	53.4	2.0	40 53.47	4 37.392			
	Weisse XV, 3 . .	13.3	21.9	30.2	42 21.80	2 39.048	1 19.40	24.251	
	Circe	32.8	41.2	49.6	43 41.20	4 37.437			
	Weisse XV, 3 . .	57.2	5.4	14.0	45 5.53	2 39.043	1 19.10	24.311	
	Circe	16.1	24.7	33.1	46 24.63	4 37.492			
	Weisse XV, 3 . .	39.1	47.5	56.0	47 47.53	2 39.205	1 19.07	24.021	
	Circe	58.3	6.4	15.1	49 6.60	4 37.364			
	Weisse XV, 3 . .	16.2	24.7	33.2	50 24.70	2 39.336	1 18.97	24.026	
	Circe	35.1	43.7	52.2	51 43.67	4 37.500			
	Weisse XV, 3 . .	14.1	22.5	31.0	53 22.53	2 39.276	1 18.84	23.991	
	Circe	33.0	41.3	49.8	54 41.37	4 37.405			
	Weisse XV, 3 . .	59.0	7.4	16.0	56 7.47	2 39.310	1 18.86	24.018	
	Circe	18.0	26.3	34.7	57 26.33	4 37.466			
	Weisse XV, 3 . .	37.3	45.7	54.0	13 58 45.67	2 39.460	1 18.66	23.990	
	Circe	56.0	4.3	12.7	14 0 4.33	4 37.588			
	Weisse XV, 3 . .	48.5	56.9	5.3	1 56.90	2 39.504	+1 18.60	— 23.872	
	Circe	7.1	15.5	23.9	14 3 15.50	4 37.514			
May 7	Circe	47.4	55.8	4.2	13 4 55.80				
	Weisse XV, 3 . .	8.6	17.0	25.5	5 17.03	. . .	—0 21.23		
H.									
	Circe	14.1	22.5	31.6	6 22.73				The sky thick and the planet extremely faint.
	Weisse XV, 3 . .	35.9	44.1	52.8	6 44.27	. .	0 21.54		
	Circe	7.8	15.7	24.3	7 15.93				
	Weisse XV, 3 . .	29.1	37.5	46.0	7 37.53	. .	0 21.60		
	Circe	7.4	15.8	24.3	8 15.83				
	Weisse XV, 3 . .	28.9	37.6	45.7	8 37.40	. . .	0 21.57		
	Circe	8.6	17.3	26.0	9 17.30				
	Weisse XV, 3 . .	30.5	38.7	47.4	9 38.87	. . .	0 21.57		
	Circe	7.4	16.3	25.0	10 16.23				
	Weisse XV, 3 . .	29.5	33.0	46.4	10 37.97	. . .	0 21.74		
	Circe	7.7	16.2	25.0	11 16.30				
	Weisse XV, 3 . .	29.5	38.0	46.3	13 11 37.93	. . .	—0 21.63		

(Continued.)

CIRCE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ *a*	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
May 7	Circe	6.0	14.5	23.3	13 12 14.60			
	Weisse XV, 3	27.9	36.1	44.7	12 36.23		—0 21.63	
H.								
	Circe				14 48.40	1 42.504		
	Weisse XV, 3					2 42.446		+ 17.073
	Circe				17 14.20	1 42.498		
	Weisse XV, 3					2 42.491		17.124
	Circe				19 0.20	1 42.564		
	Weisse XV, 3					2 42.590		17.157
	Circe				20 31.80	1 42.481		
	Weisse XV, 3					2 42.560		17.210
	Circe				21 49.40	1 42.505		
	Weisse XV, 3					2 42.587		17.213
	Circe				23 21.20	1 42.400		
	Weisse XV, 3					2 42.649		17.380
	Circe				26 58.00	1 42.428		
	Weisse XV, 3					2 42.736		17.439
	Circe				28 53.00	1 42.606		
	Weisse XV, 3					2 42.818		17.345
	Circe				30 28.20	1 42.593		
	Weisse XV, 3					2 42.835		17.373
	Circe				32 1.30	1 42.690		
	Weisse XV, 3					2 42.842		17.283
	Circe				33 37.00	1 42.583		
	Weisse XV, 3					2 42.872		17.420
	Circe				35 3.20	1 42.803		
	Weisse XV, 3					2 42.900		17.228
	Circe				36 33.40	1 42.556		
	Weisse XV, 3					2 42.950		17.525
	Circe				38 6.00	1 42.690		
	Weisse XV, 3					2 42.976		+ 17.417
	Circe	23.9	32.3	41.0	41 32.40			
	Weisse XV, 3	46.4	54.9	3.2	41 54.83		0 22.43	
	Circe	18.6	26.9	35.6	42 27.03			
	Weisse XV, 3	41.3	49.8	58.2	42 49.77		0 22.74	
	Circe	22.6	31.0	39.7	44 31.10			
	Weisse XV, 3	45.6	53.9	2.3	44 53.93		0 22.83	
	Circe	21.2	29.8	38.3	45 29.77			
	Weisse XV, 3	44.3	52.6	1.2	45 52.70		0 22.93	
	Circe	18.2	25.8	35.1	46 26.03			
	Weisse XV, 3	41.1	49.5	58.0	46 49.53		0 23.50	
	Circe	16.8	25.2	33.8	47 25.27			
	Weisse XV, 3	40.0	48.2	56.6	47 48.27		0 23.00	
	Circe	22.2	30.4	38.8	48 30.47			
	Weisse XV, 3	45.0	53.4	2.0	48 53.47		0 23.00	
	Circe	21.9	30.3	39.0	49 30.40			
	Weisse XV, 3	45.0	53.4	2.0	13 49 53 47		0 23.07	
May 16	Circe	19.8	27.9	36.6	12 4 28.10	1 48.990		
	Weisse XIV, 1048	23.7	31.9	40.5	6 32.03	5 40.005	2 3.93	+ 51.016
F.								
	Circe		44.3	52.7	11 44.27	2 32.310		
	Weisse XIV, 1048	40.2	48.6	57.2	12 13 48.67	5 40.264	—2 4.40	+ 50.824

RESULTS.

m. s.
Corr. Chron. + 0 3.61

	a h. m. s.	*δ* ° ′ ″
Weisse XV, 3	15 2 17.69	—11 3 21.58

Circe—Weisse V, 3,

	h. m.	Δ *a* m. s.	Δ *δ* ′ ″
Sid. T.	13 7	42 — 0 22.25	+ 4 25.32
		Δ *ρ* .00	+ .19
		— .12	+ 4.06

CIRCE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
May 16	Weisse XIV, 955 .	26.0	34.3	12.7	12 16 34.33	5 32.695			Corr. Chron. — 0 2.94
	(* 8)	47.1	54.2	3.7	17 55.33	4 38.011			α δ
F.	Circe	. .	51.6	59.5	19 51.32	2 32.232			h. m. s. ° ′ ″
	Weisse XIV, 1048 .	47.2	55.6	4.2	21 55.67	5 40.578	—2 4.35	+ 51.216	Weisse XIV, 1048, 14 56 35.21 —10 28 11.71
	Circe	53.5	. .	9.6	26 1.55	2 32.228			Circe—Weisse XIV, 1048,
	Weisse XIV, 1048 .	57.8	6.3	14.8	28 6.30	5 40.602	2 4.75	51.244	Δ α Δ δ
	Circe	40.3	48.7	57.0	31 48.67	2 32.482			h. m. s. m. s. ′ ″
	Weisse XIV, 1048 .	45.3	53.5	2.2	33 53.67	5 40.952	2 5.00	51.340	Sid. T. 12 37 53.43 — 2 5.17 +13 6.85
	Circe	24.7	33.1	41.2	37 33.00	2 32.749			Δ ρ + .02 + .64
	Weisse XIV, 1048 .	30.0	38.2	46.7	39 38.30	5 41.030	2 5.30	51.151	p — .10 + 2.40
	Circe	20.8	29.3	37.5	42 29.20	2 32.762			
	Weisse XIV, 1048 .	26.2	34.5	43.2	44 34.63	5 41.221	2 5.43	51.329	
	Circe	20.6	29.1	37.4	48 29.03	2 32.665			
	Weisse XIV, 1048 .	26.2	34.5	43.1	50 34.60	5 41.311	2 5.57	51.516	
	Circe	43.0	51.2	59.6	55 51.27	2 32.675			
	Weisse XIV, 1048 .	48.8	57.1	5.5	12 57 57.13	5 41.435	2 5.86	51.630	
	Circe	50.0	58.0	6.5	13 4 58.17	2 33.325			
	Weisse XIV, 1048 .	. .	4.1	12.5	7 4.22	5 41.870	2 6.05	51.415	
	Circe	57.6	5.6	14.4	14 5.87	2 33.425			
	Weisse XIV, 1048 .	3.7	12.1	20.5	16 12.10	5 42.198	—2 6.23	+ 51.643	
	(* 8)	27.0	35.2	43.7	13 16 35.30	5 47.875			

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ *a*	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
May 30	Weisse XV, 144	18.6	26.8	35.1	13 41 26.83	3 33.502	+1 6.94	— 7.138	Corr. Chron. — 0 2.17
F.	Thetis	25.5	33.6	42.2	42 33.77	3 40.640			*a* *δ*
	Weisse XV, 144	52.8	1.4	9.4	45 1.20	3 33.600	1 6.70	7.143	h. m. s. ° ′ ″
	Thetis	59.7	7.7	16.3	46 7.90	3 40.743			Weisse XV, 444, 15 24 59.82 — 9 7 23.95
	Weisse XV, 144	41.3	49.5	57.8	47 49.53	3 33.560	1 6.80	7.088	Thetis—Weisse XV, 444,
	Thetis	48.1	56.2	4.7	48 56.33	3 40.648			h. m. s. Δ *a* m. s. Δ *δ* ′ ″
	Weisse XV, 144	5.7	13.9	22.3	50 13.97	3 33.632	1 6.80	7.154	Sid. T. 14 12 1.97 + 1 5.89 — 1 49.34
	Thetis	12.5	20.7	29.1	51 20.77	3 40.886			Δ *ρ* .00 — .07
	Weisse XV, 144	13.5	21.7	30.2	52 21.80	3 33.861	1 6.73	6.967	*p* — .11 + 5.27
	Thetis	20.2	28.4	37.0	53 28.53	3 40.828			
	Weisse XV, 144	15.9	24.2	32.6	55 24.23	3 33.819	1 6.57	7.161	
	Thetis	21.8	30.6	39.0	13 56 30.80	3 40.980			
	Weisse XV, 144	13.5	21.8	30.3	14 0 21.87	3 33.923	1 6.10	7.177	
	Thetis	19.7	27.9	36.3	1 27.97	3 41.100			
	Weisse XV, 144	34.5	42.7	50.9	2 42.70	3 33.966	1 6.20	7.093	
	Thetis	40.7	48.8	57.2	3 48.90	3 41.059			
	Weisse XV, 144	26.7	34.9	43.2	6 34.93	3 33.999	1 6.10	7.090	
	Thetis	- -	40.9	49.4	7 41.03	3 41.089			
	Weisse XV, 144	21.8	40.2	48.5	11 40.17	3 34.012	1 5.66	7.169	
	Thetis	37.6	45.7	54.3	12 45.83	3 41.181			
	Weisse XV, 144	21.9	30.2	28.5	14 30.20	3 33.975	1 5.73	7.148	
	Thetis	27.6	35.8	44.4	15 35.93	3 41.123			
	Weisse XV, 144	2.3	10.6	18.9	17 10.60	3 34.140	1 5.67	7.122	
	Thetis	7.9	16.4	14.5	18 16.27	3 41.262			
	Weisse XV, 144	7.9	16.2	24.6	20 16.23	3 34.270	1 5.54	7.029	
	Thetis	13.4	21.8	30.1	21 21.77	3 41.299			
	Weisse XV, 144	4.2	12.4	20.7	23 12.43	3 34.315	1 5.54	7.295	
	Thetis	9.6	17.9	26.4	24 17.97	3 41.610			
	Weisse XV, 144	48.6	56.7	5.2	23 56.83	3 34.409	1 5.24	7.165	
	Thetis	53.7	2.1	10.4	25 2.07	3 41.574			
	Weisse XV, 144	29.8	38.2	46.7	30 38.23	3 34.362	1 5.05	7.158	
	Thetis	34.9	43.2	- -	14 31 43.28	3 41.520			
	Weisse XV, 144	33.0	41.0	49.6	15 42 41.20	3 35.760	+1 2.73	— 7.109	
	Thetis	35.7	43.8	52.3	15 43 43.93	3 42.869			
May 31	Weisse XV, 444	6.9	15.4	23.7	13 51 15.33	3 34.530	+0 19.17	— 7.120	m. s.
H.	Thetis	26.2	34.4	42.9	51 34.50	3 41.650			Corr. Chron. — 0 2.44
	Weisse XV, 444	30.8	39.1	47.4	54 39.10	3 34.590	0 18.95	7.190	*a* *δ*
	Thetis	- -	58.0	6.4	54 58.05	3 41.780			h. m. s. ° ′ ″
	Weisse XV, 444	56.1	4.2	12.7	58 4.33	3 34.680	0 18.97	7.180	Weisse XV, 444, 15 24 59.55 — 9 7 22.27
	Thetis	15.0	23.2	31.7	13 58 23.30	3 41.860			Thetis—Weisse XV, 444,
	Weisse XV, 444	18.7	27.0	35.4	14 0 27.03	3 34.800	0 18.97	7.130	h. m. s. Δ *a* m. s. Δ *δ* ′ ″
	Thetis	37.7	46.0	54.3	0 46.00	3 41.930			Sid. T. 14 4 28.68 + 0 18.68 — 1 49.71
	Weisse XV, 444	30.0	38.1	46.6	2 38.23	3 34.880	0 18.74	7.110	Δ *ρ* .00 — .07
	Thetis	48.6	56.9	5.4	2 56.97	3 41.990			*p* — .13 + 5.25
	Weisse XV, 444	22.1	30.4	38.9	5 30.47	3 34.870	0 18.66	7.110	
	Thetis	40.8	49.1	57.5	5 49.13	3 41.980			
	Weisse XV, 444	43.4	51.6	0.1	8 51.70	3 34.940	+0 18.47	— 7.160	
	Thetis	1.9	10.1	18.5	14 9 10.17	3 42.100			

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
May 31	Weisse XV, 444 .	25.7	34.1	42.4	14 11 34.07	3 34.960	+0 18.36	— 7.180	
H.	Thetis	44.1	52.3	0.9	11 52.43	3 42.140			
	Weisse XV, 444 .	28.9	37.1	45.6	13 37.20	3 35.000	0 18.30	7.210	
	Thetis	47.1	55.5	3.9	13 55.50	3 42.210			
	Weisse XV, 444 .	18.4	26.7	35.2	15 26.77	3 35.050	+0 18.40	— 7.140	
	Thetis	37.0	45.1	53.4	14 15 45.17	3 42.190			

BELLONA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ *a*	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 3	Bellona	38.0	. .	54.5	10 41 46.25	4 38.375		
	Weisse XVI, 845 .	56.5	4.7	12.7	43 4.63	3 36.584	—1 18.38	— 14.868
F.								
	Bellona	41.5	49.5	57.0	47 49.33	4 38.435		
	Weisse XVI, 845 .	59.7	8.0	16.5	49 8.07	3 36.761	1 18.74	14.751
	Bellona	46.5	55.0	3.0	54 54.83	4 38.390		
	Weisse XVI, 845 .	5.7	14.0	21.8	56 13.83	3 36.818	1 19.00	14.649
	Bellona	32.5	40.7	49.0	57 40.73	4 38.739		
	Weisse XVI, 845 .	51.5	59.8	8.1	10 58 59.80	3 36.816	1 19.07	15.000
	Bellona	10.5	18.5	27.0	11 1 18.67	4 38.781		
	Weisse XVI, 845 .	30.5	38.0	46.7	2 38.40	3 36.720	1 19.73	15.137
	Bellona	32.5	40.5	49.2	7 40.73	4 38.805		
	Weisse XVI, 845 .	52.0	0.2	8.4	9 0.20	3 36.782	1 19.47	15.100
	Bellona	56.0	. .	12.5	11 4.25	4 38.852		
	Weisse XVI, 845 .	15.5	23.2	31.8	12 23.50	3 36.863	1 19.25	15.066
	Bellona	9.0	17.0	25.8	14 17.27	4 38.735		
	Weisse XVI, 845 .	28.5	37.0	45.7	15 37.07	3 36.922	1 19.80	14.890
	Bellona	37.7	. .	55.0	17 46.35	4 38.940		
	Weisse XVI, 845 .	57.5	. .	14.0	19 5.75	3 37.011	1 19.40	15.006
	Bellona	54.7	3.0	11.5	23 3.07	4 38.670		
	Weisse XVI, 845 .	15.2	23.2	31.5	11 24 23.30	3 37.192	—1 20.23	— 14.555
June 22	Bellona	45.4	53.2	1.7	15 22 53.43	5 47.788		
	Weisse XVI, 539 .	40.9	49.1	57.6	23 49.20	1 42.660	—0 55.77	— 65.129
F.								
	Bellona	54.1	2.5	10.6	32 2.40	5 47.820		
	Weisse XVI, 539 .	49.9	58.5	6.8	32 58.40	1 42.638	0 56.00	65.183
	Bellona	23.8	31.8	40.2	35 31.93	5 47.990		
	Weisse XVI, 539 .	19.5	27.8	36.5	36 27.93	1 42.720	0 56.00	65.271
	Bellona	49.6	58.0	6.4	39 58.00	5 48.203		
	Weisse XVI, 539 .	45.9	54.2	2.5	15 40 54.20	1 42.816	0 56.20	65.388
	Bellona	22.6	31.0	39.4	16 9 31.00	5 43.075		
	Weisse XVI, 539 .	19.6	27.6	36.5	10 27.90	1 37.550	0 56.90	65.526
	Bellona	16.3	25.0	33.5	13 24.93	5 43.510		
	Weisse XVI, 539 .	13.6	21.8	30.5	14 21.97	1 37.910	0 57.04	65.601
	Bellona	20.4	29.2	37.2	17 28.93	5 43.325		
	Weisse XVI, 539 .	17.8	26.2	34.5	18 26.17	1 38.090	0 57.24	65.236
	Bellona	30.8	39.3	47.5	24 39.20	5 43.572		
	Weisse XVI, 539 .	28.5	36.7	44.8	25 36.67	1 38.228	—0 57.47	— 65.345
	Weisse XVI, 544 .	52.2	0.8	9.1	16 26 0.70	1 45.958		

RESULTS.

m. s.
Corr. Chron. — 6 34.30

	a h. m. s.	*δ* ° ′ ″
Weisse XVI, 845,	16 44 38.07	— 8 37 49.24

Bellona—Weisse XVI, 845,

		△ *a* m. s.	△ *δ* ′ ″
	h. m. s.		
M. T.	10 57 9.85	— 1 19.31	— 3 48.56
	△ *t*	— .22	
	△ *ρ*	.00	— .14
	p	— .06	+ 3.27

m. s.
Corr. Chron. + 0 0.60

	a h. m. s.	*δ* ° ′ ″
Weisse XVI, 539,	16 29 11.70	+ 8 34 9.82

Bellona—Weisse XVI, 539,

		△ *a* m. s.	△ *δ* ′ ″
	h. m. s.		
Sid. T.	15 54 26.83	— 0 56.58	—16 42.25
	△ *ρ*	.00	— .62
	p	— .03	+ 3.03

JUNO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
June 14	B. A. C. 5724	53.4	1.7	10.0	15 23 1.70	4 39.134	+1 0.53	+ 23.734	m. s. Corr. Chron. + 0 0.90
H.	Juno	53.9	2.3	10.5	24 2.23	2 41.262			α δ h. m. s. ° ′ ″
	B. A. C. 5724	29.4	37.7	46.0	25 37.70	4 39.149	1 0.40	23.660	B. A. C. 5724, 16 53 56.97 — 4 0 54.02
	Juno	29.8	38.1	46.4	26 38.10	2 41.351			Juno—B. A. C. 5724,
	B. A. C. 5724	51.0	59.2	7.5	27 59.23	4 39.210	1 0.40	23.766	Δ α Δ δ
	Juno	51.5	59.6	7.8	28 59.63	2 41.306			h. m. s. m. s. ′ ″
	B. A. C. 5724	46.1	54.4	2.8	30 54.43	4 39.312	1 0.37	23.746	Sid. T. 15 35 26.95 + 1 0.38 + 6 4.07
	Juno	46.5	54.9	3.0	31 54.80	2 41.428			Δ ρ .00 + .20
	B. A. C. 5724	2.0	10.2	18.7	33 10.30	4 39.350	1 0.37	23.707	p — .06 + 2.50
	Juno	2.4	10.7	18.9	34 10.67	2 41.505			
	B. A. C. 5724	11.7	20.0	28.2	35 19.97	4 39.370	1 0.30	23.742	
	Juno	12.0	20.2	28.6	36 20.27	2 41.490			
	B. A. C. 5724	34.9	43.1	51.5	38 43.17	4 39.459	1 0.10	23.747	
	Juno	35.0	43.2	51.6	39 43.27	2 41.574			
	B. A. C. 5724	51.8	0.0	8.3	41 0.03	4 39.455	1 0.07	23.704	
	Juno	51.9	0.0	8.4	42 0.10	2 41.613			
	B. A. C. 5724	5.2	13.4	21.9	43 13.50	4 39.579	0 59.90	23.791	
	Juno	5.2	13.3	21.7	44 13.40	2 41.650			
	B. A. C. 5724	10.0	18.2	26.3	45 18.17	4 39.590	+0 59.86	+ 23.770	
	Juno	9.9	17.9	26.3	15 46 18.03	2 41.682			
June 15	B. A. C. 5724	50.3	58.7	6.9	14 55 58.63	3 39.886	+0 11.60	+ 25.761	m. s. Corr. Chron. + 0 1.18
F.	Juno	2.1	10.2	18.4	56 10.23	1 44.041			α δ h. m. s. ° ′ ″
	B. A. C. 5724	55.8	4.2	12.2	58 4.07	3 39.813	0 11.50	25.588	B. A. C. 5724, 16 53 57.03 — 4 0 53.84
	Juno	7.5	15.5	23.7	14 58 15.57	1 44.141			Juno—B. A. C. 5724,
	B. A. C. 5724	31.6	39.8	47.9	15 0 39.77	3 40.015	0 11.36	25.658	Δ α Δ δ
	Juno	43.1	51.1	59.2	0 51.13	1 44.273			h. m. s. m. s. ′ ″
	B. A. C. 5724	15.7	23.8	32.2	5 23.90	3 39.888	0 11.20	25.284	Sid. T. 15 23 17.13 + 0 10.60 + 6 30.79
	Juno	26.8	35.1	43.4	5 35.10	1 44.520			Δ ρ .00 + .21
	B. A. C. 5724	33.5	41.7	50.1	7 41.77	3 40.061	0 11.10	25.428	p — .07 + 2.48
	Juno	44.6	52.8	1.2	7 52.87	1 44.549			
	B. A. C. 5724	30.6	38.6	47.0	9 38.73	3 40.009	0 10.87	25.464	
	Juno	41.4	49.6	57.8	9 49.60	1 44.461			
	B. A. C. 5724	30.8	39.1	47.2	18 39.03	3 40.038	0 10.77	25.486	
	Juno	41.3	49.9	58.2	18 49.80	1 44.468			
	B. A. C. 5724	16.3	24.6	32.9	21 24.60	3 40.185	0 10.93	25.425	
	Juno	27.7	35.3	43.6	21 35.53	1 44.676			
	B. A. C. 5724	22.7	30.8	39.2	23 30.90	3 40.209	0 10.60	25.405	
	Juno	33.2	41.6	49.7	23 41.50	1 44.720			
	B. A. C. 5724	3.3	11.5	19.9	26 11.57	3 40.316	0 10.46	25.450	
	Juno	13.8	22.1	30.2	26 22.03	1 44.782			
	B. A. C. 5724	26.4	34.6	42.9	28 34.63	3 40.339	0 10.30	25.493	
	Juno	36.7	44.8	53.3	28 44.93	1 44.762			
	B. A. C. 5724	8.9	17.3	25.5	30 17.23	3 40.388	0 10.40	25.416	
	Juno	19.5	27.6	35.8	30 27.63	1 44.888			
	B. A. C. 5724	7.4	15.6	23.9	32 15.63	3 40.468	0 10.24	25.473	
	Juno	17.6	25.9	34.1	32 25.87	1 44.911			
	B. A. C. 5724	49.7	57.9	6.2	34 57.93	3 40.432	0 10.24	25.248	
	Juno	59.9	8.2	16.4	35 8.17	1 45.100			
	B. A. C. 5724	40.9	49.1	57.6	36 49.20	3 40.611	+0 10.13	+ 25.516	(Continued.)
	Juno	51.1	59.3	7.6	15 36 59.33	1 45.011			

JUNO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
June 15	B. A. C. 5724	48.5	56.8	5.2	15 38 56.83	3 40.635	+0 9.94	+ 25.611	
	Juno	58.5	6.8	15.0	39 6.77	1 44.940			
F.									
	B. A. C. 5724	27.2	35.5	43.7	41 35.47	3 40.619	0 10.00	25.426	
	Juno	37.2	45.5	53.7	41 45.47	1 45.109			
	B. A. C. 5724	6.2	14.6	22.7	43 14.50	3 40.675	0 9.93	25.390	
	Juno	16.2	24.5	32.6	43 24.43	1 45.201			
	B. A. C. 5724	39.2	47.4	55.6	44 47.40	3 40.870	+0 9.77	+ 25.558	
	Juno	49.1	57.1	5.3	15 44 57.17	1 45.228			
June 16	Juno	31.9	40.0	48.2	16 21 40.03	1 45.395			
	B. A. C. 5724	. .	20.8	28.9	22 20.78	3 42.517	—0 40.75	+ 27.038	m. s. Corr. Chron. + 0 1.48
H.									α δ
	Juno	58.6	6.8	15.1	24 6.83	1 45.508			h. m. s. ° ′ ″
	B. A. C. 5724	39.5	48.0	55.9	24 47.80	3 42.430	0 40.97	26.838	B. A. C. 5724, 16 53 57.03 — 4 0 53.84
	Juno	20.3	28.3	36.9	26 28.50	1 45.442			Juno—B. A. C. 5724,
	B. A. C. 5724	1.5	9.4	17.8	27 9.57	3 42.505	0 41.07	26.979	△ α △ δ
	Juno	22.4	30.6	38.7	28 30.57	1 45.424			h. m. s. m. s. ′ ″
	B. A. C. 5724	3.3	11.5	19.9	29 11.57	3 42.528	0 41.00	27.020	Sid. T. 16 31 21.98 — 0 41.25 + 6 54.25
									Δ ρ .00 + .21
	Juno	13.8	21.8	30.1	30 21.90	1 45.350			p — .02 + 2.51
	B. A. C. 5724	54.8	3.4	11.5	31 3.23	3 42.479	0 41.33	27.045	
	Juno	14.3	22.2	30.2	32 22.23	1 45.383			
	B. A. C. 5724	55.6	3.8	11.7	33 3.70	3 42.578	0 41.47	27.111	
	Juno	11.6	19.6	27.9	34 19.70	1 45.412			
	B. A. C. 5724	52.6	0.9	9.1	35 0.87	3 42.606	0 41.17	27.110	
	Juno	35.5	43.9	52.2	36 43.87	1 45.574			
	B. A. C. 5724	17.1	25.2	33.4	37 25.23	3 42.616	0 41.36	26.958	
	Juno	24.1	32.2	40.4	38 32.23	1 45.512			
	B. A. C. 5724	5.6	13.7	22.0	39 13.77	3 42.591	0 41.54	26.995	
	Juno	10.9	19.2	27.4	40 19.17	1 45.570			
	B. A. C. 5724	52.9	0.9	9.1	16 41 0.97	3 42.665	—0 41.80	+ 27.011	
June 20	Juno	13.1	21.2	29.5	15 42 21.27	1 45.693			m. s. Corr. Chron. + 0 0.39
	Weisse XVI, 958	21.2	29.2	37.9	43 29.43	5 39.249	—1 8.16	+ 53.557	α δ
F.									h. m. s. ° ′ ″
	Juno	49.5	57.6	6.0	44 57.70	1 45.640			Weisse XVI, 958, 16 51 11.94 — 4 7 4.18
	Weisse XVI, 958	57.4	5.8	14.0	46 5.73	5 39.401	1 8.03	53.762	
	Juno	33.6	41.8	50.3	48 41.90	1 45.611			Juno—Weisse XVI, 958,
	Weisse XVI, 958	41.9	50.2	58.4	49 50.17	5 39.389	1 8.27	53.779	△ α △ δ
	B. A. C. 5724	26.8	35.1	43.3	15 52 35.07	3 42.645			h. m. s. m. s. ′ ″
	Juno	19.6	27.6	35.8	16 48 27.67	1 48.899			Sid. T. 16 11 13.88 — 1 9.10 +13 40.51
	Weisse XVI, 958	29.8	38.2	46.5	49 38.17	5 41.965	1 10.50	53.067	Δ ρ .00 + .43
									p — .03 + 2.50
	Juno	30.5	38.9	47.0	51 38.80	1 48.940			
	Weisse XVI, 958	40.9	49.5	57.6	16 52 49.33	5 42.268	—1 10.53	+ 53.329	

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 4	Eunomia . . .	1.6	10.6	19.4	18 11 10.53	2 43.265			m. s. Corr. Chron. + 0 4.05
	Oeltzen S. 19903 .	9.4	18.2	27.2	12 18.27	3 39.240			α δ
	Oeltzen S. 19909 .	22.3	31.4	40.6	12 31.43	5 35.660	—1 20.90	+ 35.265	h. m. s. ° ′ ″
F.									Oeltzen S. 19909, 19 36 35.32 —23 34 47.40
	Eunomia . . .	5.4	14.2	23.1	14 14.23	2 43.285			
	Oeltzen S. 19903 .	13.3	21.9	30.9	15 22.03	3 39.351			Eunomia—Oeltzen S. 19909,
	Oeltzen S. 19909 .	26.3	35.3	44.3	15 35.30	5 35.690	1 21.07	35.275	Δ α Δ δ
									h. m. s. m. s. ′ ″
	Eunomia . . .	43.7	52.6	1.8	25 52.70	2 43.530			Sid. T. 18 24 55.35 — 1 21.76 + 9 1.56
	Oeltzen S. 19903 .	52.3	1.3	10.3	27 1.30	3 39.340			Δ ρ + .01 + .76
	Oeltzen S. 19909 .	5.8	15.0	23.8	27 14.87	5 36.100	1 22.17	35.440	ρ — .11 + 4.53
	Eunomia . . .	54.9	3.7	12.7	30 3.73	2 43.613			
	Oeltzen S. 19909 .	16.6	25.7	34.8	31 25.70	5 36.008	1 21.97	35.265	
	Eunomia . . .	27.6	36.5	45.6	32 36.57	2 43.560			
	Oeltzen S. 19909 .	49.8	58.7	7.8	33 58.77	5 35.891	1 22.20	35.201	
	Eunomia . . .	1.2	9.9	19.0	35 10.03	2 43.332			
	Oeltzen S. 19909 .	23.5	32.2	41.2	18 36 32.30	5 35.879	—1 22.27	+ 35.417	
July 25	B. A. C. 6607 . .	38.2	47.0	55.9	16 38 47.03	4 36.968	+0 47.67	+ 20.502	m. s. Corr. Chron. + 0 4.57
	Eunomia . . .	25.8	34.7	43.6	39 34.70	2 42.330			α δ
F.									h. m. s. ° ′ ″
	B. A. C. 6607 . .	47.8	56.5	5.6	40 56.63	4 37.159	0 47.47	20.406	B. A. C. 6607, 19 12 33.35 —22 38 52.20
	Eunomia . . .	35.1	44.2	53.0	41 44.10	2 42.615			
	B. A. C. 6607 . .	47.6	56.4	5.4	42 56.47	4 37.234	0 47.60	20.561	Eunomia—B. A. C. 6607,
	Eunomia . . .	35.1	44.1	53.0	43 44.07	2 42.535			Δ α Δ δ
									h. m. s. m. s. ′ ″
	B. A. C. 6607 . .	50.8	59.7	8.8	44 59.77	4 37.369	0 47.33	20.516	Sid. T. 17 3 9.43 + 0 46.59 + 5 16.99
	Eunomia . . .	38.2	46.9	56.2	45 47.10	2 42.655			Δ ρ + .02 + .53
									ρ — .15 + 4.46
	B. A. C. 6607 . .	46.0	54.9	3.8	46 54.90	4 37.491	0 47.40	20.472	
	Eunomia . . .	33.4	42.2	51.3	47 42.30	2 42.881			
	B. A. C. 6607 . .	50.8	59.7	8.7	51 59.73	4 37.773	0 47.00	20.642	
	Eunomia . . .	37.8	46.6	55.8	52 46.73	2 42.993			
	B. A. C. 6607 . .	46.0	55.2	4.2	53 55.13	4 37.910	0 46.90	20.650	
	Eunomia . . .	33.0	41.9	51.2	54 42.03	2 43.122			
	B. A. C. 6607 . .	13.3	22.5	31.4	56 22.40	4 38.022	0 46.77	20.544	
	Eunomia . . .	0.3	9.1	18.1	57 9.17	2 43.340			
	B. A. C. 6607 . .	9.8	18.7	27.6	58 18.70	4 38.105	0 46.73	20.662	
	Eunomia . . .	56.5	5.4	14.4	16 59 5.43	2 43.305			
	B. A. C. 6607 . .	10.7	19.5	28.4	17 0 19.53	4 38.279	0 46.64	20.822	
	Eunomia . . .	57.2	6.1	15.2	1 6.17	2 43.319			
	B. A. C. 6607 . .	17.0	26.3	35.0	5 26.10	4 38.210	0 46.50	20.603	
	Eunomia . . .	3.6	12.5	21.7	6 12.60	2 43.469			
	B. A. C. 6607 . .	28.4	37.4	46.5	7 37.43	4 38.399	0 46.37	20.806	
	Eunomia . . .	14.8	23.8	32.8	8 23.80	2 43.455			
	B. A. C. 6607 . .	33.8	42.6	51.9	9 42.77	4 38.517	0 46.46	20.787	
	Eunomia . . .	20.3	29.1	38.3	10 29.23	2 43.592			
	B. A. C. 6607 . .	32.5	41.4	50.5	11 41.47	4 38.617	0 46.10	20.846	
	Eunomia . . .	18.7	27.4	36.6	12 27.57	2 43.633			
	B. A. C. 6607 . .	20.5	29.2	38.4	13 29.37	4 38.721	0 46.03	20.748	
	Eunomia . . .	6.4	15.4	24.4	14 15.40	2 43.835			
	B. A. C. 6607 . .	7.0	15.9	24.8	15 15.90	4 38.718	0 46.03	20.715	
	Eunomia . . .	52.9	1.9	11.0	16 1.93	2 43.865			
	B A. C. 6607 . .	20.5	29.3	38.4	17 29.40	4 38.787	+0 45.83	+ 20.769	
	Eunomia . . .	6.3	15.3	24.1	17 18 15.23	2 43.880			

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		$\Delta\ a$	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 25	B. A. C. 6607 . .	46.2	55.0	4.2	17 21 55.13	4 38.912	+0 45.84	+ 20.753	
F.	Eunomia . . .	22.2	40.8	49.9	22 40.97	2 44.021			
	B. A. C. 6607 . .	37.8	47.1	55.9	23 46.93	4 39.029	0 45.60	20.761	
	Eunomia . . .	23.5	32.5	41.6	24 32.53	2 44.130			
	B. A. C. 6607 . .	28.9	37.7	47.0	25 37.87	4 39.089	+0 45.63	+ 20.806	
	Eunomia . . .	14.6	23.4	32.5	17 26 23.50	2 44.145			

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 5	Victoria	2.5	10.8	19.3	17 17 10.87	5 36.030			Corr. Chron. + 0 4.26
	B. A. C. 6564	34.4	42.5	50.9	17 42.60	3 35.222	—0 31.73	— 30.893	α δ
H.									h. m. s. ° ′ ″
	Victoria	26.9	35.1	43.5	20 35.17	5 36.210			B. A. C. 6564, 19 5 21.90 — 8 9 33.46
	B. A. C. 6564	58.7	7.0	15.3	21 7.00	3 35.220	0 31.83	31.075	
	Victoria	9.2	17.8	25.9	22 17.63	5 36.131			Victoria—B. A. C. 6564,
	B. A. C. 6564	41.4	49.5	57.8	22 49.57	3 35.223	0 31.94	30.993	△ α △ δ
	Victoria	59.0	7.3	15.7	24 7.33	5 36.238			h. m. s. m. s. ′ ″
	B. A. C. 6564	31.1	39.2	47.8	24 39.37	3 35.298	0 32.04	31.025	Sid. T. 17 39 7.60 — 0 32.50 — 6 51.70
									Δ ρ .00 — .27
	Victoria	10.2	18.6	26.9	27 18.57	5 36.163			ρ — .18 — 7.46
	B. A. C. 6564	42.3	50.8	59.0	27 50.70	3 35.394	0 32.13	30.854	
	Victoria	11.4	19.9	28.1	29 19.80	5 36.160			
	B. A. C. 6564	43.6	51.8	0.2	29 51.87	3 35.386	0 32.07	30.859	
	Victoria	3.7	12.0	20.2	31 11.97	5 36.186			
	B. A. C. 6564	36.0	44.0	52.3	31 44.10	3 35.425	0 32.13	30.846	
	Victoria	12.5	20.8	29.1	34 20.80	5 36.269			
	B. A. C. 6564	44.9	53.1	1.4	34 53.13	3 35.504	0 32.33	30.850	
	Victoria	19.6	27.8	36.1	36 27.87	5 36.272			
	B. A. C. 6564	52.1	0.2	8.5	37 0.27	3 35.596	0 32.40	30.761	
	Victoria	28.4	36.8	45.0	38 36.73	5 36.230			
	B. A. C. 6564	1.1	9.2	17.5	39 9.27	3 35.587	0 32.54	30.728	
	Victoria	57.8	6.1	14.3	41 6.07	5 36.336			
	B. A. C. 6564	30.3	38.7	47.0	41 38.67	3 35.630	0 32.60	30.791	
	Victoria	55.2	3.4	11.7	43 3.43	5 36.346			
	B. A. C. 6564	28.0	36.0	44.3	43 36.10	3 35.646	0 32.67	30.785	
	Victoria	43.3	51.5	0.0	44 51.60	5 36.348			
	B. A. C. 6564	16.1	24.3	32.7	45 24.37	3 35.715	0 32.77	30.718	
	Victoria	30.3	38.6	47.0	46 38.63	5 36.379			
	B. A. C. 6564	3.2	11.3	19.7	47 11.40	3 35.858	0 32.77	30.606	
	Victoria	33.3	41.6	50.0	48 41.63	5 36.380			
	B. A. C. 6564	6.2	14.3	22.6	49 14.37	3 35.886	0 32.74	30.579	
	Victoria	21.3	29.5	37.8	50 29.53	5 36.403			
	B. A. C. 6564	54.1	2.4	11.0	51 2.50	3 35.919	0 32.97	30.569	
	Victoria	14.0	22.3	30.7	53 22.33	5 36.579			
	B. A. C. 6564	47.0	55.2	3.5	53 55.23	3 36.103	0 32.90	30.561	
	Victoria	0.3	8.8	17.0	55 8.70	5 36.640			
	B. A. C. 6564	33.5	41.8	50.0	55 41.77	3 36.205	0 33.07	30.520	
	Victoria	4.6	12.9	21.2	57 12.90	5 36.637			
	B. A. C. 6564	37.7	46.1	54.4	57 46.07	3 36.184	0 33.17	30.538	
	Victoria	57.0	5.2	13.7	59 5.30	5 36.654			
	B. A. C. 6564	30.3	38.6	46.9	17 59 38.60	3 36.190	—0 33.30	— 30.549	
July 13	Weisse XVIII, 1398	37.9	46.9	54.6	16 24 46.47	1 40.448	+2 13.26	— 60.102	
	Weisse XVIII, 1412	3.8	12.2	20.6	25 12.20	1 44.828	1 47.53	55.722	
	Victoria	51.4	59.7	8.1	26 59.73	5 40.549			
F.									
	Weisse XVIII, 1398	28.6	37.1	45.6	29 37.10	1 40.593	2 13.43	60.078	
	Weisse XVIII, 1412	54.9	3.3	11.8	30 3.33	1 44.830	1 47.20	55.841	
	Victoria	42.3	50.5	58.8	31 50.53	5 40.670			
	Weisse XVIII, 1398	24.2	32.7	41.1	33 32.67	1 40.836	2 13.40	59.908	
	Weisse XVIII, 1412		58.8	7.0	33 58.67	1 45.208	+1 47.40	— 55.536	
	Victoria	37.7	46.1	54.4	16 35 46.07	5 40.743			

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 13	Weisse XVIII, 1398	55.8	4.1	12.7	16 37 4.20	1 40.972	+2 13.10	— 59.929	Corr. Chron. + 0 4.42
	Weisse XVIII, 1412	22.0	30.3	38.5	37 30.27	1 45.240	1 47.03	55.661	α δ
	Victoria	8.9	17.3	25.7	39 17.30	5 40.900			h. m. s. ° ′ ″
F.									Weisse XVIII, 1398, 18 55 46.37 — 7 32 11.33
	Weisse XVIII, 1398	6.7	15.1	23.5	40 15.10	1 41.050	2 13.02	59.900	Weisse XVIII, 1412, 18 56 12.24 — 7 33 18.33
	Weisse XVIII, 1412	32.7	41.2	49.6	40 41.17	1 45.322	1 46.95	55.628	
	Victoria	. .	28.2	36.5	42 28.12	5 40.949			Victoria—Weisse XVIII, 1398,
									Δ α Δ δ
	Weisse XVIII, 1398	32.7	41.0	49.2	43 40.97	1 41.088	2 12.90	59.972	h. m. s. m. s. ′ ″
	Weisse XVIII, 1412	. .	7.2	15.4	44 7.17	1 45.445	1 46.70	55.615	Sid. T. 16 51 44.88 + 2 12.66 —15 18.17
	Victoria	45.6	53.8	2.2	45 53.87	5 41.059			Δ ρ + .02 — .64
									p — .28 + 7.28
	Weisse XVIII, 1398	10.6	18.8	27.2	47 18.87	1 41.232	2 12.70	59.923	
	Weisse XVIII, 1412	36.6	44.7	53.3	47 44.87	1 45.583	1 46.70	55.572	Victoria—Weisse XVIII, 1412,
	Victoria	23.3	31.6	39.8	49 31.57	5 41.154			h. m. s.
									Sid. T. 16 51 44.88 + 1 46.61 —14 12.25
	Weisse XVIII, 1398	29.3	37.6	46.2	50 37.70	1 41.380	2 12.57	59.893	Δ ρ + .01 — .54
	Weisse XVIII, 1412	55.4	3.8	12.1	51 3.77	1 45.701	1 46.50	55.572	p — .28 + 7.28
	Victoria	42.0	50.2	58.6	52 50.27	5 41.272			
	Weisse XVIII, 1398	3.5	11.7	20.1	54 11.77	1 41.500	2 12.43	59.907	
	Weisse XVIII, 1412	29.3	37.8	46.2	54 37.77	1 45.716	1 46.43	55.691	
	Victoria	15.9	24.2	32.5	56 24.20	5 41.406			
	Weisse XVIII, 1398	29.8	37.9	. .	57 37.97	1 41.625	2 12.56	59.808	
	Weisse XVIII, 1412	55.8	4.1	12.3	58 4.07	1 45.935	1 46.46	55.498	
	Victoria	42.2	50.5	58.9	16 59 50.53	5 41.432			
	Weisse XVIII, 1398	13.7	22.2	30.4	17 2 22.10	1 41.820	2 12.17	59.711	
	Weisse XVIII, 1412	29.7	48.0	56.6	2 48.10	1 46.030	1 46.17	55.501	
	Victoria	25.9	34.3	42.6	4 34.27	5 41.530			
	Weisse XVIII, 1398	50.2	58.4	6.7	5 58.43	1 41.829	2 12.27	59.717	
	Weisse XVIII, 1412	16.2	24.6	32.9	6 24.57	1 46.214	1 46.13	55.332	
	Victoria	2.5	10.6	19.0	8 10.70	5 41.545			
	Weisse XVIII, 1398	33.3	41.4	50.0	10 41.57	1 41.929	2 11.96	59.710	
	Weisse XVIII, 1412	59.4	7.8	16.1	11 7.77	1 46.245	1 45.76	55.394	
	Victoria	45.2	53.4	2.0	12 53.53	5 41.638			
	Weisse XVIII, 1398	35.5	44.0	53.4	14 44.30	1 42.172	2 11 47	59.530	
	Weisse XVIII, 1412	1.8	10.1	18.5	15 10.13	1 46.311	+1 45.64	— 55.391	
	Victoria	47.5	55.6	4.2	17 16 55.77	5 41.701			
July 14	Weisse XVIII, 1398	48.1	56.5	4.7	16 15 56.43	1 38.995	+1 24.44	— 49.717	m. s.
	Weisse XVIII, 1412	14.1	22.5	30.7	16 22.43	1 43.348	0 58.44	45.364	Corr. Chron. + 0 4.32
	Victoria	12.6	20.7	29.3	17 20.87	4 45.719			α δ
F.									h. m. s. ° ′ ″
	Weisse XVIII, 1398	3.2	11.4	19.7	19 11.43	1 39.232	1 24.17	49.651	Weisse XVIII, 1398, 18 55 46.38 — 7 32 11.23
	Weisse XVIII, 1412	29.3	. .	45.5	19 37.40	1 43.663	0 58.20	45.220	Weisse XVIII, 1412, 18 56 12.25 — 7 33 18.24
	Victoria . . .	27.1	35.6	44.1	20 35.60	4 45.890			
									Victoria—Weisse XVIII, 1398,
	Weisse XVIII, 1398	27.6	35.8	44.4	22 35.93	1 39.321	1 24.07	49.567	Δ α Δ δ
	Weisse XVIII, 1412	. .	1.9	10.5	23 2.03	1 43.593	0 57.97	45.295	h. m. s. m. s. ′ ″
	Victoria	51.7	59.8	8.5	24 0.00	4 45.895			Sid. T. 16 40 22.02 + 1 23.57 —12 37.95
									Δ ρ + .01 — .55
	Weisse XVIII, 1398	25.1	33.6	41.8	25 33.50	1 39.479	1 24.03	49.413	p — .30 + 7.35
	Weisse XVIII, 1412	. .	59.4	7.8	25 59.40	1 43.668	0 58.13	45.224	
	Victoria	49.3	57.5	5.8	26 57.53	4 45.899			Victoria—Weisse XVIII, 1412,
									h. m. s.
	Weisse XVIII, 1398	36.5	44.7	53.2	29 44.80	1 39.602	1 23.90	49.523	Sid. T. 16 40 22.02 + 0 57.54 —11 31.96
	Weisse XVIII, 1412	2.4	10.6	19.2	30 10.73	1 43.832	0 57.97	45.293	Δ ρ + .01 — .50
	Victoria	0.4	8.6	17.1	31 8.70	4 46.132			p — .30 + 7.35
	Weisse XVIII, 1398	53.8	2.0	10.6	35 2.13	1 39.680	1 23.90	49.442	
	Weisse XVIII, 1412	19.9	28.3	36.5	35 28.23	1 44.055	0 57.80	45.067	
	Victoria	17.6	26.0	34.5	36 26.03	4 46.129			
	Weisse XVIII, 1398	8.8	17.2	25.6	38 17.20	1 39.870	1 23.53	49.435	
	Weisse XVIII, 1412	34.9	43.2	51.7	38 43.27	1 44.252	+0 57.46	— 45.053	
	Victoria	32.3	40.8	49.1	16 39 40.73	4 46.312			

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 14	Weisse XVIII, 1398	38.4	46.7	55.0	16 41 46.70	1 39.975	+1 23.50	— 49.383	
	Weisse XVIII, 1412	. .	12.5	20.8	42 12.50	1 44.290	0 57.70	45.068	
F.	Victoria	1.8	10.2	18.6	43 10.20	4 46.365			
	Weisse XVIII, 1398	26.3	34.4	42.8	44 34.50	1 40.100	1 23.37	49.362	
	Weisse XVIII, 1412	52.2	0.8	9.1	45 0.70	1 44.480	0 57.17	44.982	
	Victoria	49.5	57.9	6.2	45 57.87	4 46.469			
	Weisse XVIII, 1398	23.8	32.2	40.5	49 32.17	1 40.195	1 23.10	49.263	
	Weisse XVIII, 1412	49.9	58.0	6.5	49 58.13	1 44.480	0 57.14	44.978	
	Victoria	46.9	55.2	3.7	50 55.27	4 46.465			
	Weisse XVIII, 1398	23.3	31.5	39.8	51 31.53	1 40.329	1 23.20	49.313	
	Weisse XVIII, 1412	49.4	57.7	6.1	51 57.73	1 44.557	0 57.00	45.085	
	Victoria	46.4	54.7	3.1	52 54.73	4 46.649			
	Weisse XVIII, 1398	33.7	41.9	50.7	54 42.10	1 40.445	1 23.03	49.318	
	Weisse XVIII, 1412	59.7	7.9	16.7	55 8.10	1 44.743	0 57.03	45.020	
	Victoria	56.8	5.2	13.4	56 5.13	4 46.770			
	Weisse XVIII, 1398	50.0	58.4	6.7	56 58.37	1 40.543	1 22.90	49.270	
	Weisse XVIII, 1412	16.1	24.4	32.8	57 24.43	1 44.813	0 56.84	45.000	
	Victoria	13.0	21.3	29.5	58 21.27	4 46.820			
	Weisse XVIII, 1398	2.8	10.9	19.2	59 10.97	1 40.595	1 22.86	49.217	
	Weisse XVIII, 1412	28.7	37.1	45.4	16 59 37.07	1 44.825	+0 56.76	— 44.987	
	Victoria	25.5	33.8	42.2	17 0 33.83	4 46.819			

PSYCHE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
July 15	(* 10.5)	7.9	16.2	25.3	17 37 16.47	5 49.245			Corr. Chron. + 0 4.39
	Oeltzen S. 20423	42.8	51.4	0.4	37 51.53	3 43.612	+0 23.70	— 15.685	α δ
	Oeltzen S. 20426	48.2	. .	5.2	37 56.70	1 42.482			h. m. s. ° ′ ″
	Psyche	. .	15.2	24.0	38 15.23	4 46.220			Oeltzen S. 20423, 20 13 14.95 —17 14 58.46
F.									
	(* 10.5)	27.0	35.7	44.3	50 35.67	5 49.806			Psyche—Oeltzen S. 20423,
	Oeltzen S. 20423	2.1	10.8	19.6	51 10.83	3 44.332	0 23.17	15.728	△ α △ δ
	Oeltzen S. 20426	7.0	15.6	24.2	51 15.60	1 43.062			h. m. s. m. s. ′ ″
	Psyche	. .	33.9	42.7	51 34.00	4 46.983			Sid. T. 18 3 57.78 + 0 22.78 — 4 2.88
									Δ ρ — .01 — .28
	Oeltzen S. 20423	9.2	17.9	26.8	58 17.97	3 44.592	0 23.06	15.833	p — .14 + 3.83
	Psyche	32.4	40.9	49.8	17 58 41.03	4 47.348			
	Oeltzen S. 20423	0.1	8.7	17.4	18 0 8.73	3 44.865	0 22.95	15.657	
	Psyche	. .	31.6	40.4	0 31.68	4 47.445			
	Oeltzen S. 20423	49.8	58.4	7.3	1 58.50	3 44.889	0 22.80	15.686	
	Psyche	12.5	21.4	30.0	2 21.30	4 47.498			
	Oeltzen S. 20423	16.8	25.2	34.1	4 25.37	3 44.822	0 22.76	15.863	
	Psyche	39.7	48.0	56.7	4 48.13	4 47.608			
	(* 11)	21.7	30.2	38.9	24 30.27	4 48.515			
	Oeltzen S. 20423	14.5	23.0	31.8	25 23.10	3 45.462	0 21.83	16.184	
	Psyche	36.2	45.0	53.6	25 44.93	4 48.569			
	Oeltzen S. 20423	40.2	48.8	57.5	28 48.83	3 45.695	+0 21.97	— 16.052	
	Psyche	2.2	10.7	19.5	18 29 10.80	4 48.670			
July 16	Psyche	7.4	16.1	24.8	18 20 16.10	4 44.277			m. s.
	Oeltzen S. 20423	34.3	42.9	51.6	20 42.93	2 40.904	—0 26.83	— 29.235	Corr. Chron. + 0 4.43
H.									α δ
	Psyche	50.6	59.3	8.0	22 59.30	4 44.383			h. m. s. ° ′ ″
	Oeltzen S. 20423	17.4	26.1	34.8	23 26.10	2 40.933	0 26.80	29.312	Oeltzen S. 20423, 20 30 14.96 —17 14 58.59
	Psyche	55.3	3.9	12.6	27 3.93	4 44.590			Psyche—Oeltzen S. 20423,
	Oeltzen S. 20423	22.3	30.8	39.4	27 30.83	2 41.048	0 26.90	29.404	△ α △ δ
									h. m. s. m. s. ′ ″
	Psyche	24.6	33.2	41.9	29 33.23	4 44.648			Sid. T. 18 34 2.04 — 0 27.24 — 7 30.98
	Oeltzen S. 20423	51.9	0.4	9.0	30 0.43	2 41.145	0 27.20	29.365	Δ ρ — .01 — .46
									p — .11 + 3.92
	Psyche	51.0	59.7	8.5	31 59.73	4 44.664			
	Oeltzen S. 20423	18.2	26.7	35.4	32 26.77	2 41.173	0 27.04	29.353	
	Psyche	52.7	1.4	10.0	35 1.37	4 44.790			
	Oeltzen S. 20423	20.1	28.7	37.3	35 28.70	2 41.190	0 27.33	29.462	
	Psyche	29.9	38.6	47.2	37 38.57	4 44.918			
	Oeltzen S. 20423	57.3	5.7	14.5	38 5.83	2 41.178	0 27.26	29.602	
	Psyche	56.3	5.1	13.9	41 5.10	4 45.184			
	Oeltzen S. 20423	23.9	32.6	41.1	41 32.53	2 41.700	0 27.43	29.346	
	Psyche	45.5	54.2	2.9	45 54.20	4 45.434			
	Oeltzen S. 20423	13.3	22.0	30.5	46 21.93	2 41.810	0 27.73	29.486	
	Psyche	56.0	4.6	13.2	48 4.60	4 45.495			
	Oeltzen S. 20423	23.7	32.5	41.2	18 48 32.47	2 41.888	—0 27.87	— 29.469	
July 29	Psyche	44.3	52.6	1.2	19 21 52.70	2 29.570			m. s.
	Oeltzen S. 20294	24.7	33.2	42.1	23 33.33	3 34.361	—1 40.63	+ 17.576	Corr. Chron. + 0 4.63
F.									α δ
	Psyche	49.0	57.8	6.2	25 57.67	2 29.731			h. m. s. ° ′ ″
	Oeltzen S. 20294	29.9	38.5	47.2	27 38.53	3 34.361	1 40.86	17.415	Oeltzen S. 20294, 20 3 32.57 —18 12 51.90
	Psyche	50.7	59.0	7.7	28 59.13	2 29.710			Psyche—Oeltzen S. 20294,
	Oeltzen S. 20294	31.3	40.0	38.8	30 40.03	3 34.578	1 40.90	17.653	△ α △ δ
									h. m. s. m. s. ′ ″
	Psyche	23.8	32.0	41.0	34 32.27	2 29.823			Sid. T. 19 40 9.21 — 1 41.39 + 4 26.64
	Oeltzen S. 20294	4.8	13.6	22.1	19 36 13.50	3 34.589	—1 41.23	+ 17.551	Δ ρ .00 + .25
									p — .03 + 4.09

PSYCHE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 29	Psyche	22.1	30.6	39.2	19 37 30.63	2 30.005			
F.	Oeltzen S. 20294 .	3.3	12.1	20.8	39 12.07	3 34.600	—1 41.44	+ 17.380	
	Psyche . . .	26.5	35.1	43.6	43 35.07	2 30.065			
	Oeltzen S. 20294 .	7.9	16.4	25.4	45 16.57	3 34.602	1 41.50	17.332	
	Psyche . . .	40.8	49.3	58.3	46 49.47	2 30.230			
	Oeltzen S. 20294 .	22.3	31.0	39.8	48 31.03	3 34.795	1 41.56	17.350	
	Psyche	39.6	48.2	57.1	49 48.30	2 30.149			
	Oeltzen S. 20294 .	21.3	30.1	38.6	51 30.00	3 34.622	1 41.70	17.258	
	Psyche	15.9	24.7	33.3	54 24.63	2 30.308			
	Oeltzen S. 20294 .	58.0	6.5	15.1	56 6.53	3 34.790	1 41.90	17.267	
	Psyche	7.3	15.8	24.6	57 15.90	2 30.340			
	Oeltzen S. 20294 .	49.4	57.9	6.9	19 58 58.07	3 34.619	—1 42.17	+ 17.064	

ARIADNE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ *a*	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Aug. 1	Weisse XXI, 1085 .	24.5	32.5	40.7	11 7 32.57	3 33.518	+2 3.68	+ 27.569	Corr. Chron. — 0 8.18
	Ariadne	28.0	. .	44.5	9 36.25	1 35.865			*a* *δ*
F.									h. m. s. ° ′ ″
	Weisse XXI, 1085 .	6.2	14.0	22.4	11 14.20	3 33.615	2 3.40	27.511	Weisse XXI, 1085, 21 46 50.98 — 7 8 49.43
	Ariadne	9.7	17.3	25.8	13 17.60	1 36.020			Ariadne—Weisse XXI, 1085,
	Weisse XXI, 1085 .	16.0	24.1	32.3	14 24.13	3 33.835	2 2.72	27.802	Δ *a* Δ *δ*
	Ariadne	18.5	. .	35.2	16 26.85	1 35.949			h. m. s. m. s. ′ ″
	Weisse XXI, 1085 .	18.0	26.0	34.5	19 26.17	3 33.890	2 2.98	27.494	M. T. 11 19 39.6 + 2 3.04 + 7 1.85
	Ariadne	20.8	. .	37.5	21 29.15	1 36.312			Δ *t* + .34 - .
									Δ *ρ* + .01 + .20
	Weisse XXI, 1085 .	12.3	20.6	28.9	24 20.60	3 34.001	2 2.80	27.347	*p* — .32 + 6.57
	Ariadne	15.3	. .	31.5	26 23.40	1 36.570			
	Weisse XXI, 1085 .	24.0	31.8	40.5	29 32.10	3 34.129	+2 2.67	+ 27.307	
	Ariadne	26.8	34.5	43.0	11 31 34.77	1 36.738			
									m. s.
Aug. 3	Weisse XXI, 1085 .	38.6	46.9	55.3	18 15 46.93	3 40.902	+0 21.57	+ 12.377	Corr. Chron. — 0 4.75
	Ariadne	0.2	8.6	16.7	16 8.50	2 41.310			*a* *δ*
F.									h. m. s. ° ′ ″
	Weisse XXI, 1085 .	14.2	22.3	30.6	19 22.37	3 40.910	0 21.40	12.462	Weisse XXI, 1085, 21 46 51.01 — 7 8 53.57
	Ariadne	35.4	43.7	52.2	19 43.77	2 41.233			Ariadne—Weisse XXI, 1085,
	Weisse XXI, 1085 .	1.3	9.7	18.2	21 9.73	3 40.975	0 21.20	12.399	Δ *a* Δ *δ*
	Ariadne	22.7	30.7	39.4	21 30.93	2 41.361			h. m. s. m. s. ′ ″
	Weisse XXI, 1085 .	2.6	10.8	19.2	23 10.87	3 41.117	0 21.23	12.420	Sid. T. 18 31 7.61 + 0 20.95 + 3 9.04
	Ariadne	23.7	32.1	40.5	23 32.10	2 41.482			Δ *ρ* + .01 + .18
									p — .37 + 6.47
	Weisse XXI, 1085 .	51.3	59.8	8.3	24 59.80	3 41.242	0 21.07	12.332	
	Ariadne	12.6	20.8	29.2	25 20.87	2 41.695			
	Weisse XXI, 1085 .	7.5	15.8	24.5	27 15.93	3 41.300	0 21.10	12.194	
	Ariadne	28.7	36.9	45.5	27 37.03	2 41.891			
	Weisse XXI, 1085 .	14.5	22.8	31.2	29 22.83	3 41.500	0 20.84	12.249	
	Ariadne	35.5	43.6	51.9	29 43.67	2 40.036			
	Weisse XXI, 1085 .	57.9	6.3	14.8	31 6.33	3 41.681	0 21.00	12.343	
	Ariadne	18.9	27.3	35.8	31 27.33	2 42.123			
	Weisse XXI, 1085 .	52.5	0.8	9.4	35 0.90	3 41.700	0 20.83	12.283	
	Ariadne	13.4	21.7	30.1	35 21.73	2 42.202			
	Weisse XXI, 1085 .	21.5	39.6	48.3	37 39.80	3 41.807	0 20.73	12.264	
	Ariadne	52.3	0.6	8.7	38 0.53	2 42.328			
	Weisse XXI, 1085 .	56.7	5.2	13.6	43 5.17	3 42.059	0 20.66	12.359	
	Ariadne	17.5	25.8	34.2	43 25.83	2 42.485			
	Weisse XXI, 1085 .	35.2	43.6	51.9	44 43.57	3 42.250	0 20.36	12.355	
	Ariadne	55.6	3.9	12.3	45 3.93	2 42.680			
	Weisse XXI, 1085 .	12.3	20.5	28.8	46 20.53	3 42.263	+0 20.37	+ 12.202	
	Ariadne	32.5	40.8	49.4	18 46 40.90	2 42.846			

CALYPSO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Aug. 5	Calypso	53.7	2.5	10.7	19 16 2.30	5 42.565			Corr. Chron. + 0 2.83
	(* 12)	. .	22.7	30.8	16 22.45	5 43.410			α δ
	Weisse XXI, 1106	50.7	59.1	7.7	16 59.17	1 24.910	—0 56.87	— 77.656	h. m. s. ° ′ ″
F.									Weisse XXI, 1106, 21 47 46.47 —12 36 18.79
	Calypso	26.4	34.7	43.2	33 34.77	5 53.062			
	Weisse XXI, 1106	23.4	31.7	40.5	34 31.87	1 34.439	0 57.10	78.624	Calypso—Weisse XXI, 1106,
									△ α △ δ
	Calypso	23.4	32.3	40.0	37 31.90	5 53.430			h. m. s. m. s. ′ ″
	Weisse XXI, 1106	20.9	29.3	37.9	19 38 29.37	1 34.482	0 57.47	78.949	Sid. T. 19 36 59.57 — 0 57.27 —20 5.70
									Δ ρ — .02 — 1.09
	Calypso	29.6	38.2	46.2	20 0 38.00	5 54.305			p — .13 + 3.39
	Weisse XXI, 1106	27.1	35.6	44.2	20 1 35.63	1 35.091	—0 57.63	— 79.215	
									m. s.
Aug. 24	Calypso	54.3	. .	19.5					Corr. Chron. + 0 5.94
		58.6	7.0	15.7	19 28 7.03	4 43.560			α δ
	Weisse XXI, 739	11.6	. .	36.6					h. m. s. ° ′ ″
F.		15.5	24.0	32.7	29 24.08	2 37.542	—1 17.05	— 31.880	Weisse XXI, 793, 21 31 54.42 —14 39 49.06
	Calypso	37.6	. .	2.7					Calypso—Weisse XXI, 793,
		41.6	50.3	58.6	34 50.16	4 44.200			△ α △ δ
	Weisse XXI, 739	55.0	. .	20.3					h. m. s. m. s. ′ ″
		59.1	7.3	15.9	19 36 7.52	2 37.920	1 17.36	32.142	Sid. T. 19 53 10.38 — 1 17.95 — 8 16.19
									Δ ρ — .01 — .43
	Calypso	56.2	. .	21.2					p — .10 + 3.56
		0.3	8.8	17.3	20 1 8.76	4 45.908			
	Weisse XXI, 739	. .	. .	39.7					
		. .	26.7	35.4	2 26.93	2 39.262	1 18.17	32.508	
	Calypso	18.8	. .	44.1					
		22.8	31.3	40.1	6 31.42	4 47.682			
	Weisse XXI, 739	37.5	. .	2.2					
		41.3	50.0	58.5	7 49.90	2 40.989	1 18.48	32.555	
	Calypso	25.6	. .	50.6					
		29.5	37.9	46.6	14 38.04	4 49.785			
	Weisse XXI, 739	44.3	. .	9.3					
		48.3	56.6	5.2	20 15 56.74	2 42.971	—1 18.70	— 32.676	
									m. s.
Aug. 29	Calypso	59.1	. .	24.1					Corr. Chron. + 0 7.80
		3.2	11.6	19.9	19 21 11.58	4 31.782			α δ
F.	Oeltzen S. 21480	38.2	. .	3.2					h. m. s. ° ′ ″
		42.2	50.5	59.0	21 50.62	3 36.672	—0 39.04	— 8.187	Oeltzen S. 21480, 21 27 10.14 —15 13 26.83
	Oeltzen S. 21490	17.8	. .	42.8					
		21.7	30.4	38.8	22 30.30	3 29.549			Calypso—Oeltzen S. 21480,
	Calypso	28.6	. .	53.6					△ α △ δ
		32.6	40.9	48.9	32 40.92	4 32.569			h. m. s. m. s. ′ ″
	Oeltzen S. 21480	7.8	. .	32.8					Sid. T. 19 47 41.65 — 0 39.85 — 2 12.15
		11.7	20.4	28.7	33 20.28	3 36.820	0 39.36	8.826	Δ ρ .00 — .12
									p — .10 + 3.58
	Calypso	58.8	. .	24.2					
		2.7	11.2	19.6	36 11.30	4 32.362			
	Oeltzen S. 21480	38.2	. .	3.0					
		42.1	50.5	59.2	36 50.60	3 37.220	0 39.30	8.219	
	Calypso	37.8	. .	2.6					
		41.6	50.6	58.5	39 50.22	4 32.452			
	Oeltzen S. 21480	17.5	. .	42.3					
		21.3	29.7	38.2	40 29.80	3 37.229	0 39.58	8.300	
	Calypso	36.1	. .	1.0					
		40.1	48.5	56.8	42 48.50	4 32.678			
	Oeltzen S. 21480	15.9	. .	40.7					
		19.7	28.3	36.7	43 28.26	3 37.093	0 39.76	8.662	
	Calypso	13.2	. .	37.7					
		16.8	25.1	33.4	48 25.24	4 32.663			
	Oeltzen S. 21480	52.5	. .	17.6					
		56.6	5.1	13.5	19 49 5.06	3 37.168	—0 39.82	— 8.572	

(Continued.)

CALYPSO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Aug. 29 F.	Calypso	2.3	- -	27.1					
		6.2	14.6	23.2	19 50 14.68	4 32.898			
	Oeltzen S. 21480	42.4	- -	7.4					
		46.3	55.0	3.3	19 50 54.88	3 37.320	—0 40.20	— 8.655	
	Calypso	32.9	- -	58.1					
		37.0	45.5	53.8	20 3 45.46	4 33.629			
	Oeltzen S. 21480	13.5	- -	38.5					
		17.5	25.9	34.3	4 25.94	3 37.792	0 40.48	8.914	
	Calypso	52.6	- -	- -					
		55.7	4.3	- -	8 4.49	4 33.902			
	Oeltzen S. 21480	32.5	- -	57.3					
		36.3	44.8	53.2	8 44.82	3 37.882	0 40.33	9.097	
	Calypso	9.6	- -	34.4					
		13.5	21.7	30.5	12 21.94	4 33.902			
	Oeltzen S. 21480	50.1	- -	15.2					
		54.0	2.5	10.9	20 13 2.54	3 38.249	—0 40.60	— 8.730	

COMET, 1864, I.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Aug. 12	Weisse XIII, 81 .	34.2	42.3	50.4	17 40 42.30	4 43.919	+2 37.03	+ 32.402	m. s.
F.	Comet	11.4	19.3	27.3	43 19.33	2 37.379			Corr. Chron. + 0 2.83
									α δ
	Weisse XIII, 81 .	55.2	3.3	11.6	48 3.37	4 42.991	2 41.80	28.948	h. m. s. ° ′ ″
	Comet	36.8	45.1	53.6	50 45.17	2 39.905			Weisse XIII, 81, 13 6 22.84 — 2 46 27.60
									Comet—Weisse XIII, 81,
	Weisse XIII, 81 .	55.5	3.6	12.0	54 3.37	4 42.425	+2 45.00	+ 27.157	△α △δ
	Comet	39.8	48.5	56.8	17 54 48.37	2 41.130			h. m. s. m. s. ′ ″
									Sid. T. 17 49 40.46 + 2 41.28 + 7 32.48
									Δρ — .07 + .98
									p + 1.88 + 24.52
Aug. 15	Weisse XIII, 580	19.4	. .	43.8					m. s.
		23.1	31.6	39.8	17 53 31.54	5 38.559			Corr. Chron. + 0 3.95
F.	Weisse XIII, 676	2.5	. .	27.3					α δ
		6.3	14.4	23.1	59 14.72	2 35.505	+0 27.32	— 2.924	h. m. s. ° ′ ″
	Weisse XIII, 682	14.8	. .	38.5					Weisse XIII, 676, 13 40 14.24 — 7 49 20.33
		18.1	26.1	34.9	59 26.48	2 29.060			Comet—Weisse XIII, 676,
	Comet	29.6	. .	54.5					△ α △ δ
		33.7	42.1	50.3	17 59 42.04	2 38.429			h. m. s. m. s. ′ ″
									Sid. T. 18 5 8.42 + 0 28.93 — 0 56.75
	Weisse XIII, 676	40.5	. .	5.1					Δρ — .01 — .14
		44.5	52.7	1.4	18 3 52.84	2 35.205	0 28.88	3.585	p + 1.70 + 16.60
	Comet	9.4	. .	34.3					
		13.6	21.4	29.9	4 21.72	2 38.790			
	Weisse XIII, 676	11.9	. .	36.0					
		15.6	23.8	32.2	6 23.90	2 34.884	0 29.50	3.911	
	Comet	41.3	. .	5.6					
		44.8	53.5	1.8	6 53.40	2 38.795			
	Weisse XIII, 676	38.3	. .	3.1					
		42.4	50.7	59.1	8 50.72	2 34.620	+0 30.00	— 4.380	
	Comet	8.5	. .	32.9					
		12.7	20.6	28.9	18 9 20.72	2 39.000			
									m. s.
Aug. 29	Weisse XIV, 199	36.7	. .	1.5					Corr. Chron. + 0 7.70
		40.6	48.9	57.5	18 16 49.04	2 47.100	+2 13.91	— 39.095	α δ
F.	Comet	50.5	. .	15.4					h. m. s. ° ′ ″
		54.5	. .	11.4	19 2.95	5 43.325			Weisse XIV, 199, 14 12 13.64 —13 4 59.17
	Comet	57.8	. .	22.1					Comet—Weisse XIV, 199,
		1.4	9.1	18.0	23 9.68	5 43.772			△ α △ δ
	Weisse XIV, 241	.	. .	30.8					h. m. s. m. s. ′ ″
		.	. .	26.8	23 15.43	3 41.469			Sid. T. 18 36 14.86 + 2 15.73 —10 14.67
									Δρ + .20 — 2.62
									p + .44 + 6.23
	Weisse XIV, 199	23.7	. .	48.3					
		27.5	36.0	. .	26 35.90	2 37.724	2 14.60	39.796	
	Comet	38.4	. .	2.5					
		42.5	50.5	58.6	28 50.50	5 34.650			
	Weisse XIV. 199	46.8	. .	11.7					
		50.5	58.9	7.7	32 59.12	2 36.548	2 14.58	39.942	
	Comet	1.2	. .	26.3					
		5.6	13.6	21.8	35 13.70	5 33.620			
	Weisse XIV, 199	32.8	. .	57.9					
		36.8	45.2	53.8	38 45.30	2 35.262	2 14.86	40.233	
	Comet	47.6	. .	12.6					
		51.8	0.3	8.5	41 0.16	5 32.625			
	Weisse XIV, 199	2.2	. .	26.8					
		6.1	14.5	23.2	42 14.56	2 34.240	2 15.12	40.480	
	Comet	17.3	. .	42.1					
		21.3	29.4	38.3	44 29.68	5 31.850			
	Weisse XIV, 199	35.4	. .	0.3					
		39.4	47.9	56.3	45 47.86	2 33.190	+2 15.30	— 40.910	
	Comet	51.0	. .	15.3					
		54.7	3.0	11.8	48 3.16	5 31.230			
	Weisse XIV, 277	39.1	. .	3.9					
		43.2	51.6	0.0	18 49 51.56	2 34.461			

COMET, 1864, I.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Aug. 31	Comet	21.9	. .	46.7					Corr. Chron. + 0 9.44
F.		26.0	34.4	43.3	18 18 34.46	3 34.461			α δ
	Weisse XIV, 293	. .	. .	8.5					h. m. s. ° ′ ″
		. .	55.7	4.6	19 55.93	2 43.792	—1 21.47	— 6.454	Weisse XIV, 293, 14 17 14.63 —13 27 50.35
	Weisse XIV, 316	. .	. .	56.3					Weisse XIV, 316, 14 18 3.05 —13 28 18.05
		. .	44.2	52.4	20 43.96	2 42.218	2 9.50	5.028	
		10.9	. .	35.6					Comet—Weisse XIV, 293,
	Comet	14.6	22.9	31.5	23 23.10	3 46.660			△ α △ δ
		31.8	. .	57.0					h. m. s. m. s. ′ ″
	Weisse XIV, 293	35.9	44.7	53.2	24 44.52	3 40.042	1 21.42	6.618	Sid. T. 18 37 7.49 — 1 21.14 — 1 44.10
		. .	. .	45.1					Δ ρ + .03 — .48
	Weisse XIV, 316	. .	32.3	40.9	25 32.32	3 41.779	2 9.22	4.881	p + .42 + 6.00
		32.7	. .	57.7					Comet—Weisse XIV, 316,
	Comet	36.6	45.3	53.5	26 45.16	3 46.313			h. m. s.
		54.3	. .	19.3					Sid. T. 18 37 7.49 — 2 9.09 — 1 18.13
	Weisse XIV, 293	58.2	6.7	15.5	27 6.80	3 39.492	1 21.64	6.821	Δ ρ + .03 — .37
		42.4	. .	6.9					p + .43 + 6.00
	Weisse XIV, 316	46.2	54.6	3.3	28 54.68	3 41.335	2 9.52	4.978	
		7.6	. .	32.2					
	Comet	11.1	19.3	27.7	30 19.58	3 46.000			
		28.8	. .	53.5					
	Weisse XIV, 293	32.7	40.8	49.5	31 41.06	3 38.971	1 21.48	7.029	
		16.6	. .	41.5					
	Weisse XIV, 316	20.6	28.8	37.6	32 29.02	3 40.720	2 9.44	5.280	
		45.4	. .	9.5					
	Comet	49.5	57.2	5.8	35 57.48	3 44.782			
		6.2	. .	31.5					
	Weisse XIV, 293	10.4	18.7	27.3	37 18.82	3 37.822	1 21.34	6.960	
		54.6	. .	19.2					
	Weisse XIV, 316	58.3	6.4	15.4	37 6.78	3 39.472	2 9.30	5.310	
		9.8	. .	34.7					
	Comet	14.2	22.5	30.6	39 22.36	3 43.755			
		30.8	. .	55.7					
	Weisse XIV, 293	34.8	43.5	51.8	40 43.32	3 37.022	1 20.96	6.733	
		19.1	. .	44.2					
	Weisse XIV, 316	22.9	31.4	40.2	41 31.56	3 38.690	2 9.20	5.065	
		22.7	. .	47.9					
	Comet	27.3	35.9	43.7	43 35.50	3 37.670			
		43.7	. .	9.2					
	Weisse XIV, 293	47.6	55.9	4.7	44 56.22	3 30.817	1 20.72	6.853	
		31.8	. .	56.7					
	Weisse XIV, 316	35.7	44.2	52.9	45 44.26	3 32.338	2 8.76	5.332	
		47.5	. .	12.2					
	Comet	51.6	59.5	7.4	46 59.64	3 36.649			
		7.8	. .	33.1					
	Weisse XIV, 293	12.0	20.4	28.8	48 20.42	3 29.852	1 20.78	6.797	
		56.0	. .	20.8					
	Weisse XIV, 316	0.0	8.3	16.9	49 8.40	3 31.530	2 8.76	5.119	
		27.5	. .	52.7					
	Comet	31.6	40.2	48.7	50 40.14	3 35.406			
		48.5	. .	13.4					
	Weisse XIV, 293	52.8	1.1	9.5	52 1.06	3 28.420	1 20.92	6.986	
		36.4	. .	1.5					
	Weisse XIV, 316	40.6	48.9	37.3	52 48.94	3 30.160	2 8.80	5.246	
		55.5							
	Comet	59.6	8.0	. .	54 7.99	3 33.687			
		16.2	. .	41.3					
	Weisse XIV, 293	20.1	28.7	36.8	55 28.62	3 27.071	1 20.63	6.616	
		4.1	. .	28.8					
	Weisse XIV, 316	8.0	16.3	24.8	56 16.40	3 28.987	—2 8.41	— 4.700	

PALLAS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.		m. s.	revs.	
Sept. 1		39.3	. .	3.5					m. s. Corr. Chron. + 0 11.02
	Pallas	43.2	51.5	59.7	21 2 51.44	2 36.088			α δ
		22.4	. .	46.9					h. m. s. ° ′ ″
	B. A. C. 7827 . .	26.3	34.6	43.0	4 34.64	5 39.864	—1 43.20	+ 46.646	B. A. C. 7827, 22 21 2.44 + 4 1 21.75
H.		42.0	. .	6.2					Pallas—B. A. C. 7827,
	Pallas	46.0	54.0	2.3	5 54.10	2 36.373			Δ α Δ δ
		25.3	. .	49.8					h. m. s. m. s. ′ ″
	B. A. C. 7827 . .	29.2	37.4	45.8	7 37.50	5 39.850	1.43.40	46.347	Sid. T. 21 18 30.02 — 1 43.67 +11 41.33
		17.9	. .	42.2					Δ ρ .00 + .28
	Pallas	21.8	29.9	38.0	9 29.96	2 36.840			p — .05 + 2.14
		1.1	. .	25.5					
	B. A. C. 7827 . .	5.1	13.3	21.6	11 13.32	5 39.890	1 43.36	45.920	
		24.9	. .	49.2					
	Pallas	28.9	37.2	45.3	12 37.10	2 36.993			
		8.2	. .	32.6					
	B. A. C. 7827 . .	12.1	20.5	28.7	14 20.42	5 39.897	1 43.32	45.774	
		9.0	. .	33.3					
	Pallas	12.7	21.1	29.3	16 21.08	2 37.245			
		52.7	. .	17.2					
	B. A. C. 7827 . .	56.6	4.6	13.1	17 4.84	5 40.047	1 43.76	45.672	
		2.3	. .	26.7					
	Pallas	6.2	14.7	22.8	20 14.54	2 37.290			
		46.1	. .	10.5					
	B. A. C. 7827 . .	50.0	58.2	6.5	21.58.26	5 40.035	1 43.72	45.615	
		54.5	. .	18.8					
	Pallas	58.4	6.6	14.7	24 6.60	2 37.381			
		38.3	. .	2.8					
	B. A. C. 7827 . .	42.4	50.5	58.9	25 50.58	5 40.122	1 43.98	45.611	
		0.9	. .	25.2					
	Pallas	5.0	12.7	21.4	27 13.04	2 37.524			
		45.0	. .	9.2					
	B. A. C. 7827 . .	48.7	56.6	5.3	28 56.96	5 40.098	1 43.92	45.444	
		31.8	. .	56.3					
	Pallas	35.8	44.3	52.3	30 44.10	2 37.776			
		15.9	. .	40.2					
	B. A. C. 7827 . .	19.8	28.0	36.3	32 28.04	5 40.151	1 43.94	45.245	
		25.9	. .	50.1					
	Pallas	29.8	37.7	46.7	33 38.04	2 38.006			
		10.0	. .	34.2					
	B. A. C. 7827 . .	13.9	22.1	30.3	21 35 22.10	5 40.128	—1 44.06	+ 44.992	
Sept. 16	Weisse XXII, 129 .	19.6	27.4	36.0	20 24 27.67	1 37.611			m. s. Corr. Chron. + 0 20.92
	Weisse XXII, 153 .	29.4	37.7	. .	25 37.72	1 45.927	+0 2.28	— 55.454	α δ
	Pallas	31.8	40.0	48.2	25 40.00	5 41.380			h. m. s. ° ′ ″
F.									Weisse XXII, 153, 22 8 43.53 + 1 16 51.18
	Weisse XXII, 153 .	45.8	53.8	2.3	28 53.97	1 46.052	0 2.06	55.490	
	Pallas	47.6	56.1	4.4	28 56.03	5 41.541			Pallas—Weisse XXII, 153,
	Weisse XXII, 153 .	34.3	42.3	50.8	30 42.47	1 46.071	0 2.06	55.285	Δ α Δ δ
	Pallas	36.2	44.5	52.9	30 44.53	5 41.355			h. m. s. m. s. ′ ″
									Sid. T. 20 43 47.92 + 0 1.83 —14 15.90
	Weisse XXII, 153 .	16.4	24.5	32.8	32 24.57	1 45.955	0 2.13	55.446	Δ ρ .00 — .40
	Pallas	18.5	26.7	34.9	32 26.70	5 41.400			p — .07 + 2.29
	Weisse XXII, 153 .	12.5	20.7	29.0	37 20.73	1 46.112	0 2.07	55.450	
	Pallas	14.6	22.7	31.1	37 22.80	5 41.561			
	Weisse XXII, 153 .	13.9	22.0	30.4	39 22.10	1 46.179	0 1.90	55.817	
	Pallas	15.7	24.0	32.3	39 24.00	5 41.995			
	Weisse XXII, 153 .	39.1	47.5	55.7	43 47.43	1 46.198	+0 1.77	— 55.823	
	Pallas	40.9	49.1	57.6	20 43 49.20	5 42.020			

(Continued.)

PALLAS.

DATE	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 16	Weisse XXII, 153	7.5	15.9	24.2	20 45 15.87	1 46.335	+0 1.83	— 55.706
F.	Pallas	9.4	17.7	26.0	45 17.70	5 42.040		
	Weisse XXII, 153	4.4	12.6	21.1	47 12.70	1 46.285	0 1.67	55.958
	Pallas	6.0	14.4	22.7	47 14.37	5 42.242		
	Weisse XXII, 153	21.2	29.6	37.9	50 29.57	1 46.451	0 1.53	55.965
	Pallas	23.2	30.9	39.2	50 31.10	5 42.415		
	*Weisse XXII, 153	20.1	. .	44.3	52 22 20	1 46.438	0 1.55	56.035
	Pallas	25.5	. .	42.0	52 33.75	5 42.472		
	Weisse XXII, 153	16.2	. .	40.5	56 28.35	1 46.615	0 1.70	56.168
	Pallas	21.6	. .	38.5	56 30.05	5 42.782		
	Weisse XXII, 153	50.9	. .	14.9	59 2.90	1 46.920	0 1.65	56.281
	Pallas	56.3	. .	12.8	20 59 4.55	5 43.200		
	Weisse XXII, 153	59.6	. .	. .	21 1 11.68	1 46.965	+0 1.45	— 56.387
	Pallas	4.9	13.1	21.4	21 1 13.13	5 43.351		
Sept. 17	Weisse XXII, 113	22.4	30.6	38.9	19 45 30.63	2 42.786	+1 10.44	— 25.510
H.	Pallas	32.8	41.1	49.3	46 41.07	4 42.434		
	Weisse XXII, 113	22.1	30.4	38.6	48 30.37	2 42.909	1 10.30	25.551
	Pallas	32.5	40.6	48.9	49 40.67	4 42.598		
	Weisse XXII, 113	16.5	24.8	33.0	52 24.77	2 42.988	1 10.36	25.682
	Pallas	27.0	35.1	43.3	53 35.13	4 42.808		
	Weisse XXII, 113	36.3	44.6	52.8	54 44.57	2 43.010	1 10.30	25.771
	Pallas	46.7	54.8	3.1	55 54.87	4 42.919		
	Weisse XXII, 113	56.1	4.4	12.6	56 4.37	2 43.018	1 10.20	25.900
	Pallas	6.4	14.5	22.8	19 58 14.57	4 43.056		
	Weisse XXII, 113	1.0	9.2	17.6	20 0 9.27	2 43.126	1 10.13	25.939
	Pallas	11.2	19.3	27.7	1 19.40	4 43.203		
	Weisse XXII, 113	35.0	43.2	51.5	2 43.23	2 43.118	1 10.07	26.118
	Pallas	45.1	33.3	1.5	3 33.30	4 43.374		
	Weisse XXII, 113	46.2	54.3	2.6	4 54.37	2 43.189	1 10.00	26.168
	Pallas	56.1	4.3	12.7	6 4.37	4 43.495		
	Weisse XXII, 113	15.6	23.8	32.1	7 23.83	2 43.289	1 10.00	26.267
	Pallas	25.6	33.8	42.1	8 33.83	4 43.694		
	Weisse XXII, 113	43.0	51.2	59.3	9 51.17	2 43.347	1 9.86	26.308
	Pallas	52.8	1.0	9.3	11 1.03	4 43.793		
	Weisse XXII, 113	29.9	38.0	46.4	12 38.10	2 43.427	1 9.83	26.406
	Pallas	39.7	47.9	56.2	13 47.93	4 43.971		
	Weisse XXII, 113	3.4	11.8	20.0	15 11.73	2 43.545	1 9.77	26.524
	Pallas	13.3	21.4	29.8	16 21.50	4 44.207		
	Weisse XXII, 113	26.6	34.9	43.1	17 34.87	2 43.637	1 9.63	26.542
	Pallas	36.3	44.4	52.8	18 44.50	4 44.317		
	Weisse XXII, 113	33.3	41.4	49.7	20 41.47	2 43.706	+1 9.56	— 26.640
	Pallas	42.9	51.0	59.2	20 21 51.03	4 44.484		

RESULTS.

m. s.
Corr. Chron. + 0 21.56

	α h. m. s.	δ ° ′ ″
Weisse XXII, 113,	22 6 58.45	+ 0 56 42.94

Pallas—Weisse XXII, 113,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	20 5 1.79	+ 1 10.03	— 6 40.22
Δ ρ		.00	— .21
p		— .10	+ 2.30

* The transits of the first star are on a. c.; of the second on A. C.

ISIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ a	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Sept. 2	Oeltzen S. 22373 .	50.8	0.2	9.4	19 27 0.13	2 35.413	+0 15.57	+ 1.210	Corr. Chron. + 0 11.46
	Isis	6.7	15.6	24.8	27 15.70	2 34.203			a δ
F.									h. m. s. ° ′ ″
	Oeltzen S. 22373 .	22.9	32.1	41.2	28 32.07	2 35.900	0 15.06	1.330	Oeltzen S. 22373, 22 37 4.28 —26 59 48.74
	Isis	37.9	47.2	56.3	28 47.13	2 34.570			
									Isis—Oeltzen S. 22373,
	Oeltzen S. 22373 .	11.8	21.1	30.3	31 21.07	2 36.240	0 15.16	1.238	Δ a Δ δ
	Isis	26.7	36.4	45.6	31 36.23	2 35.002			h. m. s. m. s. ′ ″
									Sid. T. 19 36 1.22 + 0 15.07 + 0 17.46
	Oeltzen S. 22373 .	53.0	2.1	11.4	32 2.17	2 36.562	0 15.03	1.114	Δ ρ .00 + .07
	Isis	7.8	17.3	26.5	32 17.20	2 35.448			p — .38 + 7.47
	Oeltzen S. 22373 .	46.7	55.7	5.2	34 55.87	2 36.925	0 15.33	1.125	
	Isis	1.9	11.2	20.5	35 11.20	2 35.800			
	Oeltzen S. 22373 .	37.2	46.3	55.6	36 46.37	2 37.020	0 14.80	1.099	
	Isis	51.6	1.3	10.6	37 1.17	2 35.921			
	Oeltzen S. 22373 .	22.6	31.7	41.4	38 31.90	2 37.382	0 15.13	1.163	
	Isis	37.8	47.0	56.3	38 47.03	2 36.219			
	Oeltzen S. 22373 .	2.1	11.2	20.5	40 11.27	2 37.599	0 14.91	1.014	
	Isis	16.9	26.2	35.3	40 26.18	2 36.585			
	Oeltzen S. 22373 .	40.8	50.2	59.3	41 50.10	2 37.663	0 14.90	1.088	
	Isis	55.8	4.8	14.4	42 5.00	2 36.575			
	Oeltzen S. 22373 .	26.7	35.8	45.1	43 35.87	2 37.935	+0 14.86	+ 1.014	
	Isis	41.4	50.6	0.2	19 44 50.73	2 36.921			
									m. s.
Sept. 9	Wash. Z. LIV, 17 .	59.4	8.7	18.2	21 1 8.77	4 47.208	+1 10.33	+ 53.891	Corr. Chron. + 0 16.30
	Isis	9.8	19.0	28.5	2 19.10	1 36.310			a δ
F.									h. m. s. ° ′ ″
	Wash. Z. LIV, 17 .	46.1	55.2	4.7	3 55.33	5 35.945	1 10.30	54.037	Wash. Z. LIV, 17, 22 30 54.12 —27 34 4.52
	Isis	56.4	5.5	15.0	4 5.63	1 41.909			
									Isis—Wash. Z. LIV, 17,
	Wash. Z. LIV, 17 .	37.2	46.2	55.8	6 46.40	5 35.585	1 10.50	54.024	Δ a Δ δ
	Isis	47.7	56.8	6.2	7 56.90	1 41.562			h. m. s. m. s. ′ ″
									Sid. T. 21 22 32.12 + 1 9.82 —13 48.45
	Wash. Z. LIV, 17 .	2.9	12.2	21.5	9 12.20	5 35.700	1 10.27	54.109	Δ ρ + .03 — 1.56
	Isis	13.1	22.4	31.9	10 22.47	1 41.592			p — .16 — 8.10
	Wash. Z. LIV, 17 .	10.9	20.2	29.6	15 20.23	5 35.785	1 9.94	54.014	
	Isis	20.8	30.2	39.5	16 30.17	1 41.772			
	Wash. Z. LIV, 17 .	41.1	50.2	0.1	17 50.47	5 35.895	1 9.83	54.141	
	Isis	51.0	0.3	9.6	19 0.30	1 41.755			
	Wash. Z. LIV, 17 .	59.5	8.5	18.2	23 8.73	5 36.101	1 9.77	54.091	
	Isis	9.2	18.5	27.8	24 18.50	1 42.011			
	Wash. Z. LIV, 17 .	17.2	26.3	35.7	25 26.40	5 36.080	1 9.73	54.012	
	Isis	26.8	36.0	45.6	26 36.13	1 42.069			
	Wash. Z. LIV, 17 .	43.2	52.5	1.8	27 52.50	1 36.136	1 9.53	53.978	
	Isis	52.6	2.0	11.5	29 2.03	5 42.159			
	Wash. Z. LIV, 17 .	59.2	8.5	17.8	31 8.50	1 36.209	1 9.47	53.890	
	Isis	8.6	18.1	27.2	32 17.97	5 42.320			
	Wash. Z. LIV, 17 .	44.3	53.6	3.2	39 53.70	1 35.942	1 9.40	54.083	
	Isis	53.8	2.9	12.6	41 3.10	5 41.860			
	Wash. Z. LIV, 17 .	19.3	28.6	38.0	51 28.63	1 36.220	+1 8.74	+ 53.921	
	Isis	27.9	37.4	46.8	53 37.37	5 42.300			
Sept. 12	Isis	58.2	7.3	16.6	42 7.37	1 45.126			
	Wash. Z. LIV, 17 .	43.7	53.2	2.5	42 53.13	4 43.356	—0 45.76	+ 41.223	
F.									
	Isis	25.0	34.4	43.7	43 34.37	1 45.647			
	Wash. Z. LIV, 17 .	10.9	20.2	29.4	19 44 20.17	4 43.852	—0 45.80	+ 41.198	

(Continued.)

ISIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Sept. 12	Isis	53.0	2.3	11.6	19 47 2.30	1 46.065			Corr. Chron. + 0 18.34
	Wash. Z. LIV, 17	38.7	- -	57.5	47 48.10	4 44.191	—0 45.80	+ 41.119	α δ
F.									h. m. s. ° ′ ″
	Isis	8.2	17.6	27.3	49 17.70	1 46.308			Wash. Z. LIV, 17, 22 30 54.12 —27 34 5.09
	Wash. Z. LIV, 17	54.4	3.9	12.9	50 3.73	4 44.540	0 46.03	41.225	
									Isis—Wash. Z. LIV, 17,
	Isis	31.3	40.6	49.9	51 40.60	1 46.508			Δ α Δ δ
	Wash. Z. LIV, 17	17.3	26.5	36.2	52 26.67	4 44.773	0 46.07	41.258	h. m. s. m. s. ′ ″
									Sid. T. 20 0 21.70 — 0 46.26 +10 31.41
	Isis	11.8	21.2	30.3	54 21.10	1 46.753			Δ ρ + .09 + 1.91
	Wash. Z. LIV, 17	57.9	7.3	16.6	55 17.27	4 44.911	0 46.17	41.151	p — .32 + 7.45
	Isis	28.8	38.1	47.2	56 38.03	1 46.942			
	Wash. Z. LIV, 17	15.1	24.4	33.5	19 57 24.33	4 45.130	0 46.30	41.181	
	Isis	40.9	50.3	59.7	20 0 50.30	1 47.316			
	Wash. Z. LIV, 17	27.4	36.6	46.1	1 36.70	4 45.476	0 46.40	41.153	
	Isis	14.4	23.8	33.1	3 23.77	1 47.542			
	Wash. Z. LIV, 17	0.7	10.0	19.5	4 10.07	4 45.735	0 46.30	41.186	
	Isis	22.8	32.1	41.6	5 32.17	1 47.762			
	Wash. Z. LIV, 17	9.0	18.5	28.0	6 18.50	4 45.911	0 46.33	41.142	
	Isis	49.4	58.8	8.1	8 58.77	1 47.909			
	Wash. Z. LIV, 17	35.9	45.1	54.8	9 45.27	4 45.965	0 46.50	41.049	
	Isis	19.2	28.3	37.8	11 28.43	1 48.086			
	Wash. Z. LIV, 17	5.7	14.9	24.2	12 14.93	4 46.271	0 46.50	41.178	
	Isis	36.6	45.7	54.9	21 45.73	1 48.719			
	Wash. Z. LIV, 17	23.3	32.8	41.7	22 32.60	4 46.770	0 46.87	41.053	
	Isis	57.2	6.3	15.5	24 6.33	1 48.810			
	Wash. Z. LIV, 17	43.7	53.1	2.6	20 24 53.13	4 47.040	—0 46.80	+ 41.223	
									m. s.
Sept. 13	Isis	14.7	28.5	42.1	20 51 28.43	1 43.695			Corr. Chron. + 0 19.01
	Wash. Z. LIV, 17	39.4	53.0	6.9	52 53.10	4 40.254	—1 24.67	+ 39.552	α δ
H.									h. m. s. ° ′ ″
	Isis	5.2	14.3	23.9	54 14.47	1 43.810			Wash. Z. LIV, 17, 22 30 54.12 —27 34 5.21
	Wash. Z. LIV, 17	29.9	39.2	48.5	55 39.20	4 40.342	1 24.73	39.525	
	Isis	41.9	51.1	0.4	56 51.13	1 43.815			Isis—Wash. Z. LIV, 17,
	Wash. Z. LIV, 17	6.6	15.8	25.2	20 58 15.87	4 40.454	1 24.74	39.632	Δ α Δ δ
									h. m. s. m. s. ′ ″
	Isis	0.4	9.7	19.1	21 0 9.73	1 43.981			Sid. T. 21 11 41.49 — 1 25.17 +10 7.33
	Wash. Z. LIV, 17	25.3	34.6	43.9	1 34.60	4 40.610	1 24.87	39.622	Δ ρ + .03 + 1.18
									p — .18 + 7.88
	Isis	40.5	49.8	59.1	2 49.80	1 44.122			
	Wash. Z. LIV, 17	5.4	14.7	24.0	4 14.70	4 40.697	1 24.90	39.568	
	Isis	17.6	26.9	36.3	5 26.93	1 44.265			
	Wash. Z. LIV, 17	42.7	51.9	1.2	6 51.93	4 40.830	1 25.00	39.558	
	Isis	56.9	6.1	15.4	9 6.13	1 44.310			
	Wash. Z. LIV, 17	21.8	31.0	40.5	10 31.10	4 40.957	1 24.97	39.640	
	Isis	40.6	50.1	59.4	11 50.03	1 44.472			
	Wash. Z. LIV, 17	6.0	15.3	24.6	13 15.30	4 41.058	1 25.27	39.579	
	Isis	21.5	30.9	40.2	14 30.87	1 44.418			
	Wash. Z. LIV, 17	46.8	56.0	5.4	15 56.07	4 41.086	1 25.20	39.661	
	Isis	55.7	5.0	14.2	17 4.97	1 44.531			
	Wash. Z. LIV, 17	21.0	30.2	39.6	18 30.27	4 41.134	1 25.30	39.596	
	Isis	29.7	39.0	48.3	19 39.00	1 44.551			
	Wash. Z. LIV, 17	55.0	4.2	13.6	21 4.27	4 41.260	1 25.27	39.702	
	Isis	36.8	45.9	55.1	22 45.93	1 44.720			
	Wash. Z. LIV, 17	2.1	11.3	20.7	21 24 11.37	4 41.240	—1 25.44	+ 39.513	

ISIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 13	Isis - - - - - -	33.0	42.2	51.6	21 25 42.27	1 44.767			
H.	Wash. Z. LIV, 17 -	58.6	7.8	17.2	27 7.87	4 41.373	—1 25.60	+ 39.599	
	Isis - - - - - -	3.6	12.8	22.2	28 12.87	1 44.868			
	Wash. Z. LIV, 17 -	29.2	38.6	47.9	29 38.57	4 41.500	1 25.70	39.625	
	Isis - - - - - -	35.3	44.7	54.1	30 44.70	1 44.948			
	Wash. Z. LIV, 17 -	1.2	10.5	19.9	21 32 10.53	4 41.545	—1 25.83	+ 39.590	

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ a	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 12	Weisse 0,826 . .	51.9	59.6	7.9	21 50 59.80	3 43.755		
	Weisse 0,836 . .	26.5	34.8	42.9	51 34.73	5 48.382		
	Weisse 0,845 . .	. .	54.2	2.3	51 54.13	1 48.615	+1 31.77	+ 13.442
	Metis	17.8	25.7	34.2	53 25.90	1 35.173		
F.								
	Weisse 0,845 . .	0.4	8.8	17.1	55 8.77	3 37.155	1 31.90	13.492
	Metis	32.3	40.6	49.1	56 40.67	2 36.448		
	Weisse 0,845 . .	11.1	19.6	27.8	58 19.50	3 37.310	1 31.63	13.446
	Metis	42.7	51.2	59.5	21 59 51.13	2 36.649		
	Weisse 0,845 . .	47.4	55.6	4.2	22 0 55.73	3 37.425	1 31.80	13.485
	Metis	19.1	27.6	35.9	2 27.53	2 36.725		
	Weisse 0,845 . .	21.6	29.9	38.4	3 29.97	3 37.535	1 31.63	13.475
	Metis	53.2	1.6	10.0	5 1.60	2 36.845		
	Weisse 0,845 . .	41.8	50.2	58.6	5 50.20	3 37.520	+1 31.53	+ 13.266
	Metis	13.5	21.6	30.1	22 7 21.73	2 37.039		
Sept. 13	Weisse 0,845 . .	32.4	40.7	49.1	21 49 40.73	3 36.949	+0 48.44	— 6.881
	Metis	20.9	29.1	37.5	50 29.17	3 43.830		
H.								
	Weisse 0,845 . .	44.3	52.7	0.9	51 52.63	3 36.998	0 48.34	6.958
	Metis	32.7	40.9	49.3	52 40.97	3 43.956		
	Weisse 0,845 . .	3.4	11.9	20.1	54 11.80	3 37.081	0 48.23	6.989
	Metis	51.7	0.0	8.4	55 0.03	3 44.070		
	Weisse 0,845 . .	10.9	19.1	27.5	56 19.17	3 37.172	0 48.13	6.984
	Metis	59.0	7.2	15.7	57 7.30	3 44.156		
	Weisse 0,845 . .	17.3	25.6	33.9	58 25.60	3 37.175	0 48.10	7.168
	Metis	5.5	13.6	22.0	21 59 13.70	3 44.343		
	Weisse 0,845 . .	28.0	36.3	44.5	22 0 36.27	3 37.320	0 48.06	7.054
	Metis	16.0	24.3	32.7	1 24.33	3 44.374		
	Weisse 0,845 . .	20.6	28.9	37.1	3 28.87	3 37.375	0 47.96	7.093
	Metis	8.6	16.9	25.0	4 16.83	3 44.468		
	Weisse 0,845 . .	24.2	32.6	14.0	5 32.60	3 37.440	0 47.87	7.177
	Metis	12.1	20.5	28.8	6 20.47	3 44.617		
	Weisse 0,845 . .	29.8	38.0	46.3	7 38.03	3 37.480	0.47.84	7.225
	Metis	17.7	25.8	34.1	8 25.87	3 44.705		
	Weisse 0,845 . .	27.4	35.7	43.9	9 35.67	3 37.540	0 47.80	7.220
	Metis	15.1	23.5	31.8	10 23.47	3 44.760		
	Weisse 0,845 . .	23.0	31.2	39.7	11 31.30	3 37.590	0 47.70	7.260
	Metis	10.7	19.0	27.3	12 19.00	3 44.850		
	Weisse 0,845 . .	50.1	58.3	6.6	13 58.33	3 37.672	0 47.77	7.305
	Metis	37.8	46.1	54.4	14 46.10	3 44.977		
	Weisse 0,845 . .	58.1	6.2	14.7	15 6.33	3 37.701	0 47.64	7.414
	Metis	45.7	54.0	2.2	16 53.97	3 45.115		
	Weisse 0,845 . .	56.9	5.1	13.3	18 5.10	3 37.804	0 47.57	7.361
	Metis	44.4	52.7	0.9	18 52.67	3 45.165		
	Weisse 0,845 . .	49.0	57.3	5.7	19 57.33	3 37.804	0 47.40	7.456
	Metis	36.4	44.8	53.0	20 44.73	2 45.260		
	Weisse 0,845 .	46.4	54.6	3.0	21 54.67	3 37.857	0 47.36	7.459
	Metis	33.8	42.0	50.3	22 42.03	3 45.316		
	Weisse 0,845 . .	31.3	39.5	47.9	24 39.57	3 37.935	0 47.33	7.434
	Metis	18.7	26.8	35.2	25 26.90	3 45.369		
	Weisse 0 845 . .	25.0	33.3	41.7	26 33.33	3 37.996	+0 47.24	— 7.510
	Metis . . .	12.2	20.6	28.9	22 27 20.57	3 45.506		

RESULTS.

Sept. 12 F.

m. s.
Corr. Chron. + 0 18.31

	a h. m. s.	δ ° ′ ″
Weisse 0,845,	0 49 10.31	— 4 28 5.88

Metis—Weisse 0,845,

		Δ a m. s.	Δ δ ′ ″
Sid. T.	22 1 6.40	+ 1 31.71	+ 3 26.05
	Δ ρ	.00	+ .15
	p —	.23	+ 4.44

Sept. 13 H.

m. s.
Corr. Chron. + 0 18.98

	a h. m. s.	δ ° ′ ″
Weisse 0,845,	0 49 10.33	— 4 28 5.85

Metis—Weisse 0,845

		Δ a m. s.	Δ δ ′ ″
Sid. T.	22 11 35.80	+ 0 47.75	— 1 51.26
	Δ ρ	.00	— .09
	p —	.22	+ 4.48

(Continued.)

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ a	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 13	Weisse 0,845	40.6	48.8	57.2	22 28 48.87	3 38.080	+0 47.23	— 7.588	
	Metis	27.9	36.0	44.4	29 36.10	3 45.668			
H.									
	Weisse 0,845	37.1	45.1	53.5	30 45.23	3 38.142	+0 47.04	— 7.549	
	Metis	24.0	32.2	40.6	22 31 32.27	3 45.691			
									m. s.
Sept. 16	Metis	2.9	11.2	19.4	21 22 11.17	5 47.582			Corr. Chron. + 0 21.02
	Weisse 0,845	31.9	40.3	48.6	23 40.27	1 38.895	—1 29.10	— 68.688	a δ
F.									h. m. s. ° ′ ″
	Metis	8.7	17.1	25.6	25 17.13	5 47.730			Weisse 0,485, 0 49 10.37 + 4 28 5.80
	Weisse 0,845	38.1	46.2	54.7	26 46.33	1 39.042	1 29.20	68.689	Metis—Weisse 0,845,
	Metis	31.8	40.4	48.5	28 40.23	5 47.995			Δ a Δ δ
	Weisse 0,845	1.2	9.5	18.0	30 9.57	1 39.252	1 29.34	68.744	h. m. s. m. s. ′ ″
									Sid. T. 21 35 42.80 — 1 29.63 —17 36.30
	Metis	13.8	21.9	30.5	31 22.07	5 48.110			Δ ρ — .03 — .88
	Weisse 0,845	43.2	51.5	0.0	32 51.57	1 39.393	1 29.50	68.718	p — .26 + 4.49
	Metis	57.3	5.4	14.0	34 5.57	5 48.367			
	Weisse 0,845	26.7	35.1	43.5	35 35.10	1 39.450	1 29.53	68.918	
	Metis	16.9	25.4	33.6	37 25.30	5 48.559			
	Weisse 0,845	46.6	55.1	3.5	38 55.07	1 39.668	1 29.77	68.892	
	Metis	50.5	58.7	7.2	39 58.80	5 48.623			
	Weisse 0,845	20.3	28.5	37.1	41 28.63	1 39.681	1 29.83	68.943	
	Metis	22.6	31.0	39.6	42 31.07	5 48.763			
	Weisse 0,845	52.5	0.8	9.4	44 0.90	1 39.792	1 29.83	68.972	
	Metis	5.9	14.4	22.9	45 14.40	5 48.920			
	Weisse 0,845	36.2	44.3	52.9	46 44.47	1 39.862	1 30.07	69.059	
	Metis	43.7	52.0	0.4	47 52.03	5 49.048			
	Weisse 0,845	13.9	22.1	30.6	21 49 22.20	1 39.975	—1 30.17	— 69.074	
									m. s.
Sept. 17	Metis	42.3	. .	6.8					Corr. Chron. + 0 21.62
		46.2	54.6	3.0	21 57 54.58	4 43.284			a δ
	Weisse 0,836	41.8	. .	6.3					h. m. s. ° ′ ″
H.		45.7	53.9	2.2	21 59 53.98	2 39.090	—1 59.40	— 30.056	Weisse 0,836, 0 48 51.26 —4 43 25.61
	Metis	13.6	. .	38.0					
		17.5	25.8	34.2	22 1 25.82	4 43.534			Metis—Weisse 0,836,
	Weisse 0,836	13.3	. .	37.7					Δ a Δ δ
		17.1	25.4	33.7	3 25.44	2 39.234	1 59.62	30.162	h. m. s. m. s. ′ ″
	Metis	28.0	. .	52.2					Sid. T. 22 5 27.82 — 1 59.72 — 7 43.12
		31.9	40.0	48.3	4 40.08	4 43.614			Δ ρ — .01 — .31
	Weisse 0,836	27.7	. .	52.0					p — .23 + 4.56
		31.4	39.8	48.0	6 39.78	2 39.387	1 59.70	30.089	
	Metis	42.7	. .	7.1					
		46.5	54.8	3.2	7 54.86	4 43.807			
	Weisse 0.836	42.5	. .	7.0					
		46.3	54.6	3.0	9 54.68	2 39.442	1 59.82	30.227	
	Metis	23.4	. .	47.9					
		27.3	35.6	44.0	13 35.64	4 44.278			
	Weisse 0,836	23.5	. .	47.9					
		27.4	35.7	44.0	22 15 35.70	2 39.700	—1 60.06	— 30.440	

ATALANTA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Sept. 16	Oeltzen S. 21903	26.0	. .	52.8					Corr. Chron. + 0 21.05
		30.3	39.6	48.7	22 14 39.48	2 43.621	+0 6.99	— 23.381	α δ
	Atalanta . . .	. .	. .	0.2					h. m. s. ° ′ ″
		37.4	46.5	55.5	14 46.47	4 41.140			Oeltzen S. 21903, 22 0 12.77 —25 21 4.20
F.									
	Oeltzen S. 21903	11.2	. .	38.0					Atalanta—Oeltzen S. 21903,
		15.6	24.5	33.6	16 24.58	2 43.239	0 7.12	23.485	△ α △ δ
	Atalanta . . .	18.6	. .	45.1					h. m. s. m. s. ′ ″
		22.6	31.6	40.6	16 31.70	4 40.862			Sid. T. 22 24 6.40 + 0 6.71 — 6 00.11
									Δ ρ .00 — .53
	Oeltzen S. 21903	20.9	. .	47.6					p — .04 + 5.82
		25.4	34.6	43.5	18 34.40	2 43.298	0 6.96	23.419	
	Atalanta . . .	27.9	. .	54.6					
		32.5	41.4	50.4	18 41.36	4 40.855			
	Oeltzen S. 21949	29.2	. .	56.1					
		33.4	42.8	51.8	21 42.66	3 34.865			
	Oeltzen S. 21903	40.0	. .	7.0					
		44.4	. .	2.5	32 53.47	2 43.837	0 6.25	23.456	
	Atalanta . . .	46.1	. .	13.2					
		50.9	59.6	8.8	32 59.72	4 41.431			
	Oeltzen S. 21903	27.8	. .	54.6					
		32.6	41.2	50.2	35 41.28	2 43.320	+0 6.22	— 23.654	
	Atalanta . . .	34.5							
		38.4	47.4	. .	22 35 47.50	4 41.112			
Sept. 17	Atalanta . . .	27.4	36.6	45.5	20 49 36.50	3 32.948			m. s.
	Oeltzen S. 21903	15.9	24.9	33.9	50 24.90	3 38.447	—0 48.40	+ 5.499	Corr. Chron. + 0 21.59
H.									α δ
	Atalanta . . .	37.0	46.0	55.0	51 46.00	3 32.956			h. m. s. ° ′ ″
	Oeltzen S. 21903	25.4	34.6	43.7	52 34.57	3 38.459	0 48.57	5.503	Oeltzen S. 21903, 22 0 12.77 —25 21 4.30
	Atalanta . . .	33.9	43.0	52.2	53 43.03	3 32.886			
	Oeltzen S. 21903	22.4	31.4	40.7	54 31.50	3 38.552	0 48.47	5.666	Atalanta—Oeltzen S. 21903,
	Atalanta . . .	36.3	45.3	54.4	55 45.33	3 32.974			△ α △ δ
	Oeltzen S. 21903	25.0	33.8	43.0	56 33.93	3 38.630	0 48.60	5.656	h. m. s. m. s. ′ ″
	Atalanta . . .	41.2	50.6	59.4	57 50.40	3 32.822			Sid. T. 21 6 35.44 — 0 49.08 + 1 30.97
	Oeltzen S. 21903	29.9	39.0	48.0	20 58 38.97	3 38.670	0 48.57	5.848	Δ ρ .00 + .11
	Atalanta . . .	10.1	19.1	28.1	21 2 19.10	3 32.955			p .08 + 5.75
	Oeltzen S. 21903	59.1	8.0	17.2	3 8.10	3 38.668	0 49.00	5.713	
	Atalanta . . .	26.4	35.5	44.3	4 35.40	3 32.932			
	Oeltzen S. 21903	15.4	24.6	33.6	5 24.53	3 38.847	0 49.13	5.915	
	Atalanta . . .	37.9	47.0	56.0	6 46.97	3 32.931			
	Oeltzen S. 21903	27.1	36.1	45.3	7 36.17	3 38.824	0 49.20	5.893	
	Atalanta . . .	32.1	41.0	50.2	8 41.10	3 32.903			
	Oeltzen S. 21903	21.1	30.1	39.3	9 30.17	3 38.824	0 49.07	5.921	
	Atalanta . . .	33.4	42.5	51.5	11 42.47	3 32.970			
	Oeltzen S. 21903	22.7	31.8	41.0	12 31.83	3 38.980	0 49.36	6.010	
	Atalanta . . .	46.6	56.2	5.2	13 56.00	3 32.960			
	Oeltzen S. 21903	36.5	45.4	54.3	14 45.40	3 39.025	0 49.40	6.065	
	Atalanta . . .	47.9	57.0	6.1	15 57.00	3 32.880			
	Oeltzen S. 21903	37.2	46.2	55.6	16 46.33	3 39.050	0 49.33	6.170	
	Atalanta . . .	47.8	56.8	6.0	17 56.87	3 32.860			
	Oeltzen S. 21903	37.3	46.4	55.4	18 46.37	3 39.177	0 49.50	6.317	
	Atalanta . . .	49.1	58.3	7.3	19 58.23	3 32.770			
	Oeltzen S. 21903	39.0	48.1	56.8	20 47.97	3 39.200	0 49.74	6.430	
	Atalanta . . .	44.1	53.1	2.3	22 53.17	3 32.815			
	Oeltzen S. 21903	34.1	42.9	52.0	21 23 43.00	3 39.180	—0 49.83	+ 6.365	

ATALANTA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ a	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Sept. 19	Atalanta	2.3	-	28.6					Corr. Chron. + 0 22.92
		6.2	15.3	24.0	21 23 15.28	1 32.392			
F.	Oeltzen S. 21903	- -	- -	11.6					a h. m. s. / δ ° ′ ″
		- -	57.8	7.2	25 58.21	5 43.891	—2 42.93	+ 71.500	Oeltzen S. 21903, 22 0 12.76 —25 21 4.48
	Atalanta	45.9	- -	12.5					Atalanta—Oeltzen S. 21903,
		49.9	58.9	8.4	29 59.12	1 32.292			h. m. s. / Δ a m. s. / Δ δ ′ ″
	Oeltzen S. 21903	28.7	- -	55.4					Sid. T. 21 45 27.37 — 2 43.48 +18 24.18
		33.1	41.8	51.0	32 42.00	5 43.724	2 42.88	71.433	Δ ρ .00 + 1.57
									p — .02 + 5.78
	Atalanta	59.6	- -	26.3					
		3.8	12.7	22.2	35 12.92	1 37.100			
	Oeltzen S. 21903	42.6	- -	9.5					
		47.2	55.7	5.1	37 56.02	5 48.731	2 43.10	71.632	
	Atalanta	19.1	- -	45.7					
		23.4	32.3	41.5	42 32.40	1 37.202			
	Oeltzen S. 21903	2.3	- -	29.4					
		6.7	15.5	25.1	45 15.80	5 48.883	2 43.40	71.682	
	Atalanta	55.7	- -	22.3					
		59.8	8.9	18.1	48 8.96	1 36.865			
	Oeltzen S. 21903	39.3	- -	6.1					
		43.3	52.5	1.6	50 52.56	5 49.023	2 43.60	72.159	
	Atalanta	12.5	- -	39.1					
		16.3	25.6	35.0	55 25.70	1 36.871			
	Oeltzen S. 21903	55.5	- -	23.1					
		0.0	9.6	18.8	21 58 9.40	5 49.151	2 43.70	72.281	
	Atalanta	1.7	- -	28.4					
		6.2	14.5	23.9	22 0 14.94	1 36.638			
	Oeltzen S. 21903	45.8	- -	12.4					
		49.8	58.8	8.2	2 59.00	5 49.255	2 44.06	72.618	
	Atalanta	33.0	- -	59.6					
		37.3	46.3	55.2	5 46.28	1 36.465			
	Oeltzen S. 21903	17.3	- -	44.1					
		21.3	30.5	39.3	22 8 30.50	5 49.110	—2 44.22	+ 72.646	

HARMONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 24	Harmonia	28.9	37.3	45.3	22 26 37.17	4 45.574		
H.	Weisse I, 389	35.3	43.6	52.0	26 43.63	1 49.180	—0 6.46	— 39.387
	Harmonia	30.3	38.3	46.7	28 38.43	4 45.670		
	Weisse I, 389	36.9	45.1	53.3	28 45.10	1 49.193	0 6.67	39.470
	Harmonia	27.2	35.4	43.7	31 35.43	4 45.768		
	Weisse I, 389	33.9	42.1	50.4	31 42.13	1 49.215	0 6.70	39.546
	Harmonia	11.6	19.8	28.0	33 19.80	4 45.915		
	Weisse I, 389	18.2	26.5	34.8	33 26.50	1 49.323	0 6.70	39.585
	Harmonia	22.6	30.9	39.1	36 30.87	4 45.895		
	Weisse I, 389	29.4	37.8	46.0	36 37.73	1 49.308	0 6.86	39.580
	Harmonia	49.5	57.9	6.0	38 57.80	4 46.093		
	Weisse I, 389	56.7	4.7	13.2	39 4.87	1 49.372	0 7.07	39.714
	Harmonia	3.6	11.8	20.1	43 11.83	4 46.310		
	Weisse I, 389	10.6	19.0	27.1	22 43 18.90	1 49.615	—0 7.07	— 39.688
Oct. 17	Weisse 0, 1041	38.4	- -	3.0				
		42.5	50.6	59.1	21 42 50.72	4 32.210	+2 36.96	— 14.885
	Weisse 0, 1054	17.9	- -	42.3				
		21.6	30.1	38.5	43 30.08	1 38.199	1 57.60	51.889
	Harmonia	15.8	- -	39.8				
F.		19.3	27.6	35.9	45 27.68	4 47.095		
	Weisse 0, 1041	52.3	- -	16.4				
		55.8	3.9	12.2	48 4.12	4 32.273	2 36.66	14.899
	Weisse 0, 1054	- -	- -	55.5				
		- -	43.5	51.7	48 43.34	1 38.200	1 57.44	51.965
	Harmonia	28.6	- -	53.1				
		32.5	40.6	49.1	50 40.78	4 47.172		
	Weisse 0, 1041	4.7	- -	29.1				
		8.5	16.8	24.8	53 16.78	3 45.732	2 36.52	14.937
	Weisse 0, 1054	- -	- -	8.4				
		- -	55.9	4.4	54 56.11	1 38.470	1 57.19	52.115
	Harmonia	41.1	- -	5.6				
		45.1	53.2	1.5	55 53.30	4 47.592		
	Weisse 0, 1041	13.4	- -	37.8				
		17.3	25.6	33.8	57 25.58	3 45.713	2 36.38	15.254
	Weisse 0, 1054	- -	- -	16.9				
		- -	4.7	13.1	21 58 4.55	1 38.612	1 57.41	52.271
	Harmonia	49.8	- -	14.1				
		53.8	1.9	10.2	22 0 1.96	4 47.890		
	Weisse 0, 1041	13.0	- -	37.2				
		16.7	24.8	33.3	1 25.00	3 46.118	2 36.38	14.981
	Weisse 0, 1054	51.7	- -	16.6				
		56.3	4.6	13.0	2 4.44	1 38.885	1 56.94	52.130
	Harmonia	49.5	- -	13.5				
		53.1	1.2	9.6	4 1.38	4 48.022		
	Weisse 0, 1041	42.9	- -	7.0				
		46.6	54.8	3.1	12 54.88	3 46.240	2 35.72	15.247
	Weisse 0, 1054	22.2	- -	46.5				
		26.2	34.3	42.7	13 34.38	1 38.901	1 56.22	52.502
	Harmonia	18.4	- -	42.6				
		22.4	30.6	39.0	15 30.60	4 48.410		
	Weisse 0, 1041	45.6	- -	10.1				
		49.7	58.3	6.2	16 57.98	3 36.349	2 35.56	15.319
	Weisse 0, 1054	25.3	- -	49.5				
		29.3	37.4	45.9	17 37.48	1 39.149	+1 56.06	— 52.435
	Harmonia	21.6	- -	45.6				
		25.3	33.5	41.7	22 19 33.54	4 48.591		

RESULTS.

m. s.
Corr. Chron. + 0 41.42

	α h. m. s.	δ ° ′ ″
Weisse I, 389,	1 23 36.63	+ 0 39 47.43

Harmonia—Weisse I, 389,

		Δ α m. s.	Δ δ ′ ″
Sid. T.	22 34 48.75	— 0 6.79	—10 6.86
	Δ ρ	+ .01	— .36
	p	— .25	+ 4.53

m. s.
Corr. Chron. + 1 2.86

	α h. m. s.	δ ° ′ ″
Weisse 0, 1041,	0 59 32.00	— 1 28 10.40
Weisse 0, 1054,	1 0 12.39	— 1 18 41.82

Harmonia—Weisse 0, 1041,

		Δ α m. s.	Δ δ ′ ″
Sid. T.	22 10 39.71	+ 2 35.98	— 3 52.32
	Δ ρ	.00	— .15
	p	— .25	+ 4.63

Harmonia—Weisse 0, 1054,

Sid. T.	22 10 39.71	+ 1 56.62	—13 21.68
	Δ ρ	— .02	— .52
	p	— .25	+ 4.63

(Continued.)

HARMONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. $\Delta\alpha$	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 17	Weisse 0, 1041	59.6	. .	24.0					
		3.5	11.6	19.9	22 21 11.72	3 46.473	+2 35.34	— 15.242	
	Weisse 0, 1054	39.1	. .	3.1					
		42.7	51.0	59.3	21 51.04	1 39.400	1 56.02	52.231	
	Harmonia	35.0	. .	59.3					
		38.8	46.9	55.3	23 47.06	4 48.638			
F.									
	Weisse 0, 1041	12.6	. .	37.0					
		16.5	24.7	33.1	25 24.78	3 46.710	2 35.18	15.356	
	Weisse 0, 1054	51.9	. .	16.3					
		55.8	4.3	12.3	26 4.12	1 39.445	1 55.84	52.537	
	Harmonia	47.7	. .	12.3					
		51.6	0.0	8.2	27 59.96	4 48.989			
	Weisse 0, 1041	25.3	. .	49.4					
		28.9	37.1	45.2	30 37.18	3 46.760	2 35.08	15.352	
	Weisse 0, 1054	4.7	. .	28.9					
		8.6	16.5	25.0	31 16.74	1 39.441	+1 55.52	— 52.627	
	Harmonia	0.0	. .	24.5					
		4.0	12.2	20.6	22 33 12.26	4 49.075			
Oct. 18	Weisse 0, 1041	0.0	8.4	16.6	20 55 8.33	2 31.126	+1 43.57	— 29.810	m. s. Corr. Chron. + 1 4.23
	Harmonia	43.7	51.8	0.2	56 51.90	4 35.074			α δ
H.									h. m. s. ° ′ ″
	Weisse 0, 1041	59.6	7.8	16.0	57 7.80	2 31.148	1 43.40	29.899	Weisse 0, 1041, 0 39 32.01 — 1 28 10.43
	Harmonia	43.0	51.2	59.4	20 59 51.20	4 35.185			
	Weisse 0, 1041	45.1	53.4	2.0	21 1 53.50	2 31.553	1 43.03	29.774	Harmonia—Weisse 0, 1041,
	Harmonia	28.2	36.6	44.8	3 36.53	4 35.465			$\Delta\alpha$ $\Delta\delta$
									h. m. s. m. s. ′ ″
	Weisse 0, 1041	29.7	38.0	46.3	4 38.00	2 31.697	1 42.80	29.816	Sid. T. 21 15 2.88 + 1 42.60 — 7 40.43
	Harmonia	12.6	20.7	29.1	6 20.80	4 35.651			$\Delta\rho$ — .02 — .44
									p — .31 + 4.60
	Weisse 0, 1041	41.0	49.2	57.5	7 49.23	2 31.854	1 42.64	29.958	
	Harmonia	23.6	31.9	40.1	9 31.87	4 35.950			
	Weisse 0, 1041	25.6	33.9	42.1	11 33.87	2 32.061	1 42.50	30.019	
	Harmonia	8.1	16.3	24.7	13 16.37	4 36.218			
	Weisse 0, 1041	19.1	27.4	35.7	14 27.40	2 32.073	1 42.30	30.267	
	Harmonia	1.4	9.6	18.1	16 9.70	4 36.478			
	Weisse 0, 1041	53.0	1.2	9.4	17 1.20	2 32.298	1 42.37	30.012	
	Harmonia	35.3	43.5	51.9	18 43.57	4 36.448			
	Weisse 0, 1041	30.5	38.3	47.0	20 38.60	2 32.474	1 42.43	30.103	
	Harmonia	12.9	21.0	29.2	21 21.03	4 36.715			
	Weisse 0, 1041	11.2	19.4	27.7	23 19.43	2 32.500	1 42.17	30.284	
	Harmonia	53.3	1.6	9.9	24 1.60	4 36.922			
	Weisse 0, 1041	47.9	56.0	4.6	25 56.17	2 32.760	1 42.10	30.184	
	Harmonia	30.0	38.2	46.6	27 38.27	4 37.082			
	Weisse 0, 1041	30.8	39.0	47.3	28 39.03	2 32.851	+1 41.94	— 30.128	
	Harmonia	12.5	21.1	29.3	21 30 20.97	4 37.117			

ECHO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 7	Weisse II, 31	40.2	- -	5.4					m. s.
		44.3	52.9	1.3	22 42 52.82	4 35.364			Corr. Chron. + 0 49.28
	Weisse II, 56	- -	- -	7.5					α δ
		46.6	55.0	3.7	43 55.04	4 35.751			h. m. s. ° ′ ″
	Weisse II, 61	- -	- -	25.8					Weisse II, 61, 2 5 36.98 +11 13 32.78
		- -	13.3	21.7	44 13.37	4 41.011	+1 37.53	+ 22.623	
	Echo	38.6	- -	3.4					Echo—Weisse II, 61,
		42.5	50.8	59.2	45 50.90	3 31.465			Δ α Δ δ
F.									h. m. s. m. s. ′ ″
	Weisse II, 61	44.1	- -	9.1					Sid. T. 22 11 25.78 + 1 36.84 + 5 38.33
		48.1	56.6	5.2	54 56.62	4 41.240	1 37.20	22.322	Δ ρ — .01 + .20
	Echo	- -	- -	46.4					ρ — .32 + 3.74
		- -	33.7	42.4	56 33.82	2 44.780			
	Weisse II, 61	13.2	- -	27.5					
		16.8	25.4	33.6	22 59 25.36	4 41.393	1 37.26	22.097	
	Echo	50.2	- -	14.8					
		54.2	2.7	11.2	23 1 2.62	2 45.158			
	Weisse II, 61	6.2	- -	31.0					
		10.4	18.6	27.2	2 18.68	4 41.472	1 37.06	22.201	
	Echo	43.5	- -	8.0					
		47.4	55.7	4.1	3 55.74	2 45.133			
	Weisse II, 61	44.7	- -	9.3					
		48.4	56.8	5.3	7 56.90	4 41.672	1 36.84	22.184	
	Echo	21.4	- -	46.3					
		25.4	33.6	42.0	9 33.74	2 45.350			
	Weisse II, 61	40.3	- -	5.1					
		44.3	52.5	1.2	10 52.68	4 41.759	1 36.54	22.073	
	Echo	16.8	- -	41.5					
		20.9	29.2	37.7	12 29.22	2 45.548			
	Weisse II, 61	7.6	- -	32.7					
		11.6	20.0	28.5	14 20.08	4 41.799	1 36.72	22.000	
	Echo	44.6	- -	9.3					
		48.4	56.6	5.1	15 56.80	2 45.661			
	Weisse II, 61	4.8	- -	29.5					
		8.6	17.0	25.3	17 17.04	4 41.929	1 36.74	21.952	
	Echo	41.1	- -	6.4					
		45.6	53.6	2.2	18 53.78	2 45.839			
	Weisse II, 61	32.0	- -	56.6					
		35.8	44.2	52.6	21 44.24	4 41.949	1 36.35	21.631	
	Echo	- -	- -	33.2					
		- -	- -	28.7	23 20.59	2 46.180			
	Weisse II, 61	39.4	- -	4.1					
		43.2	51.8	0.1	36 51.72	4 42.102	+1 36.12	+ 21.502	
	Echo	15.5	- -	40.4					
		19.4	27.7	36.2	23 38 27.84	2 46.462			
									m. s.
Oct. 8	Weisse II, 61	14.7	23.2	- -	21 59 23.38	2 42.885	+0 54.65	— 2.025	Corr. Chron. + 0 50.64
	Echo	9.5	17.7	26.9	21 0 18.03	2 44.910			α δ
F.									h. m. s. ° ′ ″
	Weisse II, 61	1.8	10.2	18.6	22 9 10.20	2 43.311	0 54.50	2.011	Weisse II, 61, 2 5 36.99 +11 13 32.84
	Echo	56.4	4.7	13.0	10 4.70	2 45.322			Echo—Weisse II, 61,
	Weisse II, 61	9.1	17.5	25.9	12 17.50	2 43.325	0 54.30	2.100	Δ α Δ δ
	Echo	3.4	11.7	20.3	13 11.80	2 45.425			h. m. s. m. s. ′ ″
	Weisse II, 61	55.8	4.3	12.7	15 4.27	2 43.660	0 54.53	1.950	Sid. T. 22 22 2.13 + 0 54.11 — 0 34.29
	Echo	50.3	58.8	7.3	15 58.80	2 45.610			Δ ρ .00 — .02
	Weisse II, 61	49.3	57.5	5.8	16 57.53	2 43.632	0 54.40	2.162	ρ — .31 + 3.72
	Echo	43.5	51.8	0.5	17 51.93	2 45.795			
	Weisse II, 61	36.5	45.2	53.3	18 45.00	2 43.810	+0 53.93	— 2.169	
	Echo	30.5	38.9	47.4	22 19 38.93	2 45.979			

(Continued.)

ECHO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 8	Weisse II, 61 . .	20.4	28.7	37.3	22 20 28.80	2 43.765	+0 54.30	— 2.195	
F.	Echo	14.6	23.2	31.5	21 23.10	2 45.960			
	Weisse II, 61 . .	52.1	0.3	8.8	23 0.40	2 43.900	0 54.13	2.435	
	Echo	46.2	54.4	3.0	23 54.53	2 46.335			
	Weisse II, 61 . .	28.7	36.9	45.5	25 37.03	2 44.061	0 53.80	2.296	
	Echo	22.4	30.6	39.5	26 30.83	2 46.357			
	Weisse II, 61 . .	32.1	40.6	49.4	27 40.70	2 44.181	0 53.67	2.352	
	Echo	25.8	34.4	42.9	28 34.37	2 46.533			
	Weisse II, 61 . .	24.4	32.8	41.6	29 32.93	2 44.121	0 53.87	2.420	
	Echo	18.3	26.8	35.3	30 26.80	2 46.541			
	Weisse II, 61 . .	11.3	19.6	28.1	31 19.67	2 44.310	0 53.73	2.356	
	Echo	5.1	13.2	21.9	32 13.40	2 46.666			
	Weisse II, 61 . .	20.2	28.6	37.1	34 28.63	2 44.222	+0 53.60	— 2.598	
	Echo	13.8	22.3	30.6	22 35 22.23	2 46.820			
Oct. 10	Echo	53.5	. .	10.3	23 17 1.90	5 33.910			m. s. Corr. Chron. + 0 53.50
F.	Weisse II, 61 . .	33.3	41.7	50.3	17 41.77	1 39.220	—0 39.87	— 54.691	α δ h. m. s. ° ′ ″
	Echo	53.5	2.2	10.3	19 2.00	5 34.032			Weisse II, 61, 2 5 37.02 +11 13 32.93
	Weisse II, 61 . .	33.3	41.8	50.5	19 41.87	1 39.200	0 39.87	54.833	Echo—Weisse II, 61,
	Echo	50.3	58.8	7.6	20 58.90	5 34.039			Δ α Δ δ
	Weisse II, 61 . .	30.4	38.6	47.4	21 38.80	1 39.262	0 39.90	54.778	h. m. s. m. s. ′ ″
	Echo	34.1	42.5	51.2	22 42.60	5 34.188			Sid. T. 23 20 49.85 — 0 39.89 —14 0.14
	Weisse II, 61 . .	14.1	22.4	31.1	23 23 22 53	1 39.381	—0 39.93	— 54.808	Δ ρ — .01 — .34
									p — .25 + 3.55
Oct. 11	Echo	52.2	. .	16.8					m. s.
		55.8	3.9	12.6	21 51 4.26	5 47.075			Corr. Chron. + 0 54.72
	Weisse II, 61 .	16.2	. .	41.3					α δ
F.		20.7	28.8	37.5	52 28.90	1 27.469	—1 24.64	— 79.607	h. m. s. ° ′ ″
	Echo	4.1	. .	28.9					Weisse II, 61, 2 5 37.03 +11 13 32.98
		7.8	16.5	24.7	54 16.40	5 47.231			Echo—Weisse II, 61,
	Weisse II, 61	28.7	. .	53.5					Δ α Δ δ
		32.4	. .	49.7	21 55 41.07	1 27.599	1 24.67	79.633	h. m. s. m. s. ′ ″
	Echo	1.5	. .	25.9					Sid. T. 22 23 49.95 — 1 25.58 —20 31.05
		5.2	13.5	21.8	22 17 13.58	5 49.989			Δ ρ — .02 — .67
	Weisse II, 61 .	26.7	. .	51.2					p — .31 + 3.77
		30.5	38.8	47.3	18 38.90	1 29.865	1 25.32	80.125	
	Echo	31.2	. .	55.5					
		35.1	43.3	51.5	21 43.32	5 50.282			
	Weisse II, 61 .	56.3	. .	21.1					
		0.4	8.7	17.2	23 8.74	1 29.920	1 25.42	80.363	
	Echo	25.4	. .	50.1					
		29.3	37.5	46.1	25 37.68	5 50.305			
	Weisse II, 61 .	51.0	. .	15.5					
		54.7	3.1	11.5	27 3.16	1 29.979	1 25.48	80.327	
	Echo	51.1	. .	16.0					
		55.3	3.5	12.2	29 3.62	5 50.499			
	Weisse II, 61 .	17.1	. .	42.0					
		21.1	29.4	38.2	30 29.56	1 30.042	1 25.94	80.458	
	Echo	57.0	. .	21.2					
		0.5	8.9	17.2	32 8.96	5 50.770			
	Weisse II, 61 .	22.5	. .	47.2					
		26.3	34.7	43.2	33 34.78	1 30.260	1 25.82	80.511	
	Echo	42.2	. .	6.8					
		46.1	54.3	2.6	35 54.40	5 50.795			
	Weisse II, 61 .	7.9	. .	32.7					
		12.1	20.5	28.9	22 37 20.42	1 30.315	—1 26.02	— 80.481	

(Continued.)

ECHO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 11	Echo	39.5	- -	4.4					
F.		43.7	51.7	0.4	22 38 51.94	5 50.950			
	Weisse II, 61	5.5	- -	30.5					
		9.7	18.1	26.6	40 18.08	1 30.460	—1 26.14	— 80.491	
	Echo	5.9	- -	30.4					
		9.6	18.4	26.5	43 18.16	5 51.261			
	Weisse II, 61	32.6	- -	56.9					
		35.9	44.2	53.1	22 44 44.54	1 30.601	—1 26.38	— 80.661	
									m. s.
Oct. 20	Echo	37.6	- -	2.4					Corr. Chron. + 1 7.10
		41.6	50.0	58.5	22 43 50.02	3 36.555			α δ
H.	Weisse I, 1045	45.7	- -	10.2					h. m. s. ° ′ ″
		49.7	58.0	6.3	46 57.98	3 31.497	—3 7.96	— 5.058	Weisse I, 1045, 1 59 30.35 + 9 49 59.65
	Echo	14.5	- -	39.1					Echo—Weisse I, 1045,
		18.2	26.6	35.0	48 26.68	3 36.714			Δ α Δ δ
	Weisse I, 1045	22.5	- -	47.1					h. m. s. m. s. ′ ″
		26.3	34.7	43.0	51 34.72	3 31.633	3 8.04	5.081	Sid. T. 23 6 57.96 — 3 8.84 — 1 22.74
									Δ ρ .00 — .04
	Echo	32.0	- -	56.6					p — .26 + 3.75
		35.9	44.3	52.6	53 44.28	3 36.924			
	Weisse I, 1045	40.2	- -	4.9					
		44.3	53.6	0.9	56 52.58	3 31.752	3 8.30	5.172	
	Echo	32.2	- -	57.0					
		36.0	44.5	53.0	22 58 44.54	3 37.226			
	Weisse I, 1045	40.9	- -	5.4					
		44.8	53.1	1.4	23 1 53.12	3 31.781	3 8.58	5.445	
	Echo	11.9	- -	36.3					
		15.7	23.8	32.4	3 24.02	3 37.380			
	Weisse I, 1045	20.6	- -	45.0					
		24.5	33.0	41.0	6 32.82	3 32.043	3 8.80	5.337	
	Echo	2.1	- -	26.6					
		6.1	14.4	22.7	8 14.38	3 37.598			
	Weisse I, 1045	11.2	- -	35.6					
		15.1	23.3	31.7	11 23.38	3 32.214	3 9.00	5.384	
	Echo	23.1	- -	48.3					
		27.5	35.7	44.6	13 35.84	3 37.784			
	Weisse I, 1045	32.8	- -	57.3					
		36.7	45.2	53.5	16 45.10	3 32.373	3 9.26	5.411	
	Echo	47.8	- -	12.6					
		51.8	0.0	8.4	18 0.12	3 38.005			
	Weisse I, 1045	57.2	- -	21.7					
		1.1	9.2	17.8	21 9.40	3 32.476	3 9.28	5.529	
	Echo	28.0	- -	52.4					
		32.0	40.1	48.5	22 40.20	3 38.269			
	Weisse I, 1045	37.4	- -	2.0					
		41.3	49.7	58.1	25 49.70	3 32.590	3 9.50	5.679	
	Echo	36.3	- -	1.0					
		40.2	48.5	56.8	27 48.56	3 38.558			
	Weisse I, 1045	45.9	- -	10.4					
		49.9	58.2	6.7	23 30 58.22	3 32.705	—3 9.66	— 5.853	
									m. s.
Oct. 25	Weisse I, 880	1.3	- -	25.9					Corr. Chron. + 1 13.76
		5.3	13.6	22.0	23 31 13.62	3 37.387	+1 24.78	— 8.253	α δ
H.	Echo	26.0	- -	50.6					h. m. s. ° ′ ″
		30.1	38.5	46.8	32 38.40	3 45.640			Weisse I, 880, 1 50 19.42 + 9 13 32.43
	Weisse I, 880	47.2	- -	11.7					Echo—Weisse I, 880,
		51.1	59.4	7.8	33 59.44	3 37.404	1 24.70	8.473	Δ α Δ δ
	Echo	11.7	- -	36.7					h. m. s. m. s. ′ ″
		15.7	24.1	32.5	35 24.14	3 45.877			Sid. T. 23 47 37.90 + 1 24.23 — 2 11.41
									Δ ρ .00 — .05
	Weisse I, 880	45.0	- -	9.9					p — .20 + 3.75
		49.1	57.5	5.8	36 57.46	3 37.403	+1 24.64	— 8.487	
	Echo	9.8	- -	34.4					
		13.8	22.0	30.5	23 38 22.10	3 45.890			

(Continued.)

ECHO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 25	Weisse I, 880	27.0	. .	51.6					
		30.9	39.2	47.7	23 39 39.28	3 37.516	+1 24.22	— 8.434	
H.	Echo	51.3	. .	15.7					
		55.3	3.4	11.8	41 3.50	3 45.950			
	Weisse I, 880	59.9	. .	24.5					
		3.7	12.0	20.5	43 12.12	3 37.617	1 24.26	8.544	
	Echo	24.1	. .	48.7					
		28.0	36.4	44.7	44 36.38	3 46.161			
	Weisse I, 880	42.3	. .	7.0					
		46.1	54.6	3.0	45 54.60	3 37.700	1 24.34	8.595	
	Echo	6.6	.	31.2					
		10.6	18.9	27.4	47 18.94	3 46.295			
	Weisse I, 880	36.4	. .	1.1					
		40.4	48.7	57.2	48 48.76	3 37.719	1 24.22	8.603	
	Echo	0.7	. .	25.2					
		4.8	12.8	21.4	50 12.98	3 46.322			
	Weisse I, 880	14.2	. .	38.9					
		18.1	26.6	35.0	52 26.56	3 37.716	1 23.84	8.730	
	Echo	38.1	. .	2.7					
		42.0	50.4	58.8	53 50.40	3 46.446			
	Weisse I, 880	5.9	. .	30.4					
		9.9	18.1	26.3	57 18.12	3 38.147	1 23.76	8.758	
	Echo	29.6	. .	54.1					
		33.6	41.9	50.2	23 58 41.88	3 46.905			
	Weisse I, 880	16.8	. .	41.5					
		20.8	29.2	37.5	0 0 29.16	3 38.218	+1 23.52	— 8.800	
	Echo	40.4	. .	5.1					
		44.2	52.6	1.1	0 1 52.68	3 47.018			
Oct. 31	Echo	39.2	. .	3.6	0 8 51.50	4 44.149			m. s. Corr. Chron. + 1 25.03
		42.7	51.6	. .					α δ
F.	Weisse I, 820	45.1	. .	10.6					h. m. s. ° ′ ″
		49.6	57.8	6.4	8 57.90	2 41.229	—0 6.40	— 28.782	Weisse I, 820, 1 46 22.19 + 8 35 12.41
	(* 9.5)	12.5	. .	36.5					
		15.8	24.4	32.8	9 24.40	2 42.880			Echo—Weisse I, 820,
	Rumker 973, N. F.	6.5	. .	30.9					Δ α Δ δ
		10.1	18.5	26.9	10 18.58	3 43.761			h. m. s. m. s. ′ ″
	(* 9)	17.5	. .	42.1					Sid. T. 0 16 30.92 — 0 6.93 — 7 21.88
		21.2	29.4	38.1	10 29.66	2 46.395			Δ ρ .00 — .18
									p — .15 + 3.76
	Echo	7.8	. .	32.6					
		12.1	20.1	28.8	21 20.28	4 44.677			
	Weisse I, 820	15.2	. .	39.8					
		19.3	27.6	36.8	0 21 27.74	2 41.698	—0 7.46	— 28.841	
Nov. 4	Echo	2.6	. .	26.9					m. s. Corr. Chron. + 1 30.85
		6.3	14.4	22.8	22 30 14.60	2 39.242			α δ
F.	Rumker N. F., 928	10.7	. .	35.2					h. m. s. ° ′ ″
		14.7	23.0	31.4	31 23.00	4 45.742	—1 8.40	+ 32.362	Rumker N. F., 928, 1 44 0.95 + 7 52 53.57
	Rumker N. F., 931	26.2	. .	50.5					
		30.0	18.3	46.7	31 38.34	5 35.400			Echo—Rumker N. F., 928,
	Echo	49.6	. .	14.3					Δ α Δ δ
		53.8	1.9	10.2	34 1.96	2 39.541			h. m. s. m. s. ′ ″
	Rumker N. F., 928	58.5	. .	23.2					Sid. T. 22 59 32.19 — 1 9.51 + 8 8.34
		2.5	10.7	19.2	35 10.82	4 45.937	1 8.86	32.258	Δ ρ .00 + .23
	Rumker N. F., 931	13.6	. .	38.0					p — .25 + 3.93
		17.8	25.7	34.5	35 25.92	5 35.611			
	Rumker N. F., 928	33.9	. .	58.4					
		37.7	45.8	54.3	38 46.02	2 39.685			
	Rumker N. F., 931	42.6	. .	7.1					
		46.6	54.8	3.2	22 39 54.86	4 45.910	—1 8.84	+ 32.087	

(Continued.)

ECHO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ *a*	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Nov. 4 F.	Echo	34.5	. .	58.3					
		38.2	46.1	54.6	22 50 46.34	2 40.491			
	Rumker N. F., 928	43.4	. .	7.8					
		47.4	55.6	4.1	51 55.66	4 46.211	—1 9.32	+ 31.582	
	Echo	52.7	. .	17.3					
		56.8	4.9	13.4	53 5.02	2 40.339			
	Rumker N. F., 928	2.0	. .	26.7					
		5.8	14.3	22.6	54 14.28	4 46.495	1 9.26	32.018	
	Echo	5.1	. .	29.3					
		9.1	16.8	25.4	58 17.14	2 40.481			
	Rumker N. F., 928	14.6	. .	38.9					
		18.6	26.8	35.2	22 59 26.82	4 46.448	1 9.68	31.829	
	Echo	53.4	. .	17.2					
		56.9	5.0	13.4	23 1 5.18	2 40.818			
	Rumker N. F., 928	2.6	. .	27.3					
		6.6	14.8	23.2	2 14.90	4 46.765	1 9.72	31.809	
	Echo	45.1	. .	9.1					
		48.7	56.8	5.5	5 57.04	2 40.728			
	Rumker N. F., 928	54.7	. .	19.2					
		58.4	7.3	15.2	7 6.96	4 46.649	1 9.92	31.783	
	Echo	8.2	. .	32.6					
		12.2	20.5	28.6	8 20.42	2 40.790			
	Rumker N. F., 928	17.9	. .	42.5					
		21.8	29.9	38.4	8 30.10	4 46.765	1 9.68	31.837	
	Echo	40.6	. .	5.0					
		44.6	52.8	0.8	11 52.76	2 40.738			
	Rumker N. F., 928	50.6	. .	14.9					
		54.5	2.4	10.9	13 2.66	4 46.522	1 9.90	31.646	
	Echo	25.5	. .	50.1					
		29.4	37.9	45.8	20 37.74	2 41.148			
	Rumker N. F., 928	35.9	. .	0.3					
		39.8	48.0	56.2	21 48.04	4 46.741	1 10.30	31.455	
	Echo	59.6	. .	23.9					
		3.6	11.8	19.8	23 11.74	2 41.332			
	Rumker N. F., 928	9.8	. .	34.2					
		13.8	21.8	30.2	23 24 21.96	4 46.895	—1 10.22	+ 31.425	

CERES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 18	Ceres	7.3	15.4	24.0	21 43 15.57	3 31.273		
	Weisse I, 402	16.8	25.3	33.7	43 25.27	3 25.667	—0 9.70	— 5.606
H.	Ceres	9.8	18.2	26.4	45 18.13	3 31.415		
	Weisse I, 402	19.5	27.4	36.3	45 27.73	3 25.655	0 9.60	5.760
	Ceres	27.2	35.3	43.5	47 35.33	3 31.367		
	Weisse I, 402	36.9	45.0	53.7	47 45.20	3 25.800	0 9.87	5.567
	Ceres	51.5	59.8	7.9	49 59.73	3 31.655		
	Weisse I, 402	1.3	9.5	17.8	50 9.53	3 25.980	0 9.80	5.675
	Ceres	10.4	19.0	27.3	52 18.90	3 31.735		
	Weisse I, 402	20.7	29.0	37.1	52 28.93	3 26.097	0 10.03	5.638
	Ceres	54.5	2.8	11.1	53 2.80	3 31.837		
	Weisse I, 402	4.4	12.8	21.3	54 12.83	3 26.013	0 10.03	5.824
	Ceres	13.9	22.2	30.4	56 22.17	3 31.929		
	Weisse I, 402	24.0	32.3	40.6	56 32.30	3 26.128	0 10 13	5.801
	Ceres	54.1	2.4	10.9	57 2.47	3 31.990		
	Weisse I, 402	4.3	12.7	21.1	58 12.70	3 26.310	0 10.23	5.680
	Ceres	49.4	57.8	6.0	59 57.73	3 32.119		
	Weisse I, 402	59.7	8.0	16.2	21 59 7.97	3 26.451	0 10.24	5.668
	Ceres	39.5	47.8	56.2	22 1 47.83	3 32.178		
	Weisse I, 402	50.0	58.2	6.4	1 58.20	3 26.525	0 10.37	5.653
	Ceres	27.4	35.7	44.0	3 35.70	3 32.326		
	Weisse I, 402	37.9	46.1	54.5	3 46.17	3 26.619	0 10.47	5.707
	Ceres	4.9	13.2	21.6	5 13.23	3 32.432		
	Weisse I, 402	15.3	23.5	32.0	5 23.60	3 26.668	0 10.37	5.764
	Ceres	42.3	50.5	59.0	6 50.60	3 32.454		
	Weisse I, 402	52.9	1.3	9.6	7 1.27	3 26.631	0 10.67	5.823
	Ceres	6.4	14.9	23.2	9 14.83	3 32.556		
	Weisse I, 402	17.2	25.4	33.8	9 25.47	3 26.780	0 10.64	5.776
	Ceres	52.1	0.5	8.8	11 0.47	3 32.695		
	Weisse I, 402	2.8	11.1	19.6	22 11 11.17	3 26.830	—0 10.70	— 5.865
Oct. 20	Ceres	52.2	0.6	9.0	21 9 0.60	4 38.248		
	Weisse I, 381	28.8	37.1	45.4	9 37.10	3 39.284	—0 36.50	— 12.041
	Weisse I, 402	43.8	52.2	0.4	10 52.13	2 39.617	1 51.53	24.493
H.	Ceres	54.0	2.3	10.6	12 2.30	4 38.551		
	Weisse I, 381	30.6	38.8	47.2	12 38.87	3 39.411	0 36.57	12.217
	Weisse I, 402	45.6	54.0	2.4	13 54.00	2 39.722	1 51.70	24.691
	Ceres	48.0	56.4	4.7	14 56.37	4 37.634		
	Weisse I, 381	24.6	33.0	41.4	15 33.00	3 38.475	0 36.63	12.236
	Weisse I, 402	39.9	48.1	56.4	16 48.13	2 38.731	1 51.76	24.765
	Ceres	46.3	54.7	3.0	17 54.67	4 37.942		
	Weisse I, 381	23.1	31.4	39.7	18 31.40	3 38.833	0 36.73	12.186
	Weisse I, 402	38.3	46.5	54.8	19 46.53	2 39.082	1 51.86	24.722
	Ceres	31.6	39.7	48.1	21 39.80	4 38.337		
	Weisse I, 381	8.6	17.0	24.9	22 16.83	3 39.123	0 37.03	12.291
	Weisse I, 402	23.4	31.8	40.2	23 31.80	2 39.425	1 52.00	24.774
	Ceres	24.0	32.3	40.8	24 32.37	4 38.555		
	Weisse I, 381	1.1	9.4	17.7	25 9.40	3 39.354	0 37.03	12.278
	Weisse I, 402	16.2	24.7	33.0	26 24.63	2 39.583	1 52.26	24.834
	Ceres	15.2	23.6	32.0	27 23.60	4 38.831		
	Weisse I, 381	52.5	0.6	8.8	28 0.63	3 39.554	0 37.03	12.354
	Weisse I, 402	7.4	15.8	24.2	21 29 15.80	2 39.854	—1 52.20	— 24.839

RESULTS.

m. s.
Corr. Chron. + 1 4.34

	α h. m. s.	δ ° ′ ″
Weisse I, 402,	1 24 21.48	— 6 14 23.69

Ceres—Weisse I, 402,

		Δ α m. s.	Δ δ ′ ″
Sid. T.	21 58 34.71	— 0 10.91	— 1 27 73
	Δ ρ	.00	— .09
	p	— .18	+ 3.00

m. s.
Corr. Chron. + 1 6.83

	α h. m. s.	δ ° ′ ″
Weisse I, 402,	1 24 21.49	— 6 14 23.84
Weisse I, 381,	1 23 6.32	— 6 17 34.69

Ceres—Weisse I, 402,

		Δ α m. s.	Δ δ ′ ″
Sid. T.	21 24 8.65	— 1 52.07	— 6 20.07
	Δ ρ	— .03	— .54
	p	— .20	+ 2.95

Ceres—Weisse I, 381,

	h. m. s.		
Sid. T.	21 24 8.65	— 0 37.00	— 3 7.94
	Δ ρ	— .02	— .27
	p	— .20	+ 2.95

(Continued.)

CERES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		$\Delta\alpha$	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 20	Ceres	8.7	17.0	25.3	21 31 17.00	4 37.152			
	Weisse I, 381	46.0	54.4	2.9	31 54.43	3 37.880	—0 37.43	— 12.349	
	Weisse I, 402	1.0	9.3	17.8	33 9.37	2 38.131	1 52.37	24.883	
H.									
	Ceres	6.4	14.6	23.0	34 14.67	4 37.289			
	Weisse I, 381	43.7	52.0	0.6	34 52.10	3 37.991	0 37.43	12.375	
	Weisse I, 402	58.8	7.1	15.5	36 7.13	2 38.274	1 52.46	24.877	
	Ceres	8.5	16.8	25.2	37 16.83	4 37.474			
	Weisse I, 381	46.2	54.6	2.7	37 54.50	3 38.335	0 37.67	12.216	
	Weisse I, 402	1.1	9.3	17.8	21 39 9.40	2 38.406	—1 52.57	— 24.930	

AMPHITRITE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 18	Amphitrite	9.4	18.3	27.3	22 52 18.33	2 30.711			m. s. Corr. Chron. + 1 4.40
	Weisse 2, II, 805	46.5	55.4	4.3	53 55.40	5 39.295	—1 37.07	+ 51.454	α δ
H.									h. m. s. ° ′ ″
	Amphitrite	55.3	4.2	13.1	55 4.20	2 30.732			Weisse 2, II, 805, 2 33 51.12 +21 39 54.42
	Weisse 2, II, 805	32.3	41.1	50.0	56 41.13	5 39.357	1 36.93	51.495	
	Amphitrite	45.3	54.3	3.0	57 54.20	2 30.814			Amphitrite—Weisse 2, II, 805,
	Weisse 2, II, 805	22.4	31.1	40.1	22 59 31.20	5 39.329	1 37.00	51.385	Δ α Δ δ
	Amphitrite	30.8	39.7	48.8	23 0 39.77	2 30.790			h. m. s. m. s. ′ ″
	Weisse 2, II, 805	8.0	16.9	25.9	2 16.93	5 39.464	1 37.16	51.544	Sid. T. 23 6 19.11 — 1 37.40 +13 9.30
	Amphitrite	48.8	57.6	6.4	3 57.60	2 31.022			Δ ρ .00 + .30
	Weisse 2, II, 805	26.1	35.0	43.8	5 34.97	5 39.644	1 37.37	51.492	ρ — .26 + 1.69
	Amphitrite	30.0	38.9	48.0	6 38.97	2 30.977			
	Weisse 2, II, 805	7.6	16.4	25.4	8 16.47	5 39.693	1 37.50	51.586	
	Amphitrite	23.4	32.2	41.3	9 32.30	2 31.233			
	Weisse 2, II, 805	1.0	10.0	18.9	11 9.97	5 39.746	1 37.67	51.383	
	Amphitrite	6.3	15.2	24.3	12 15.27	2 31.355			
	Weisse 2, II, 805	44.0	52.9	1.9	13 52.93	5 39.985	1 37.66	51.500	
	Amphitrite	27.4	36.2	45.2	15 36.27	2 31.392			
	Weisse 2, II, 805	5.1	13.9	22.9	17 13.97	5 39.914	1 37.70	51.392	
	Amphitrite	21.3	30.2	39.2	18 30.23	2 31.514			
	Weisse 2, II, 805	59.3	8.1	17.0	23 20 8.13	5 40.031	—1 37.90	+ 51.387	
Oct. 20	Amphitrite	23.3	- -	49.2					m. s. Corr. Chron. + 1 6.91
		27.3	36.2	45.2	21 59 36.24	1 43.251			α δ
	Weisse 2, II, 805	52.3	- -	18.4					h. m. s. ° ′ ″
		56.3	5.2	14.2	22 3 5.28	4 43.837	—3 29.04	+ 43.579	Weisse 2, II, 805, 2 33 51.15 +21 39 54.58
H.									
	Amphitrite	22.2	- -	48.4					Amphitrite—Weisse 2, II, 805,
		26.4	35.4	44.5	4 35.38	1 43.400			Δ α Δ δ
	Weisse 2, II, 805	51.5	- -	17.8					h. m. s. m. s. ′ ″
		55.8	4.8	13.6	8 4.70	4 44.038	3 29.32	43.631	Sid. T. 22 13 25.50 — 3 29.51 +11 9.33
	Amphitrite	41.8	- -	7.9					Δ ρ + .01 + .31
		45.9	54.9	3.8	9 54.86	1 43.587			ρ — .31 + 2.78
	Weisse 2, II, 805	11.0	- -	37.4					
		15.2	24.1	33.1	13 24.16	4 44.339	3 29.30	43.745	
	Amphitrite	39.8	- -	6.0					
		44.0	52.9	1.8	14 52.90	1 43.904			
	Weisse 2, II, 805	9.4	- -	35.6					
		13.5	22.3	31.3	18 22.42	4 44.478	3 29.52	43.567	
	Amphitrite	28.9	- -	54.9					
		33.0	42.0	51.0	19 41.96	1 43.957			
	Weisse 2, II, 805	58.5	- -	24.9					
		2.8	11.7	20.7	23 11.72	4 44.600	3 29.76	43.636	
	Amphitrite	57.3	- -	23.2					
		1.3	10.2	19.0	25 10.20	1 44.196			
	Weisse 2, II, 805	27.2	-	53.5					
		31.4	40.1	49.3	22 28 40.30	4 44.890	—3 30.10	+ 43.687	

CYBELE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 5	Weisse III, 139	19.9	28.5	37.2	22 29 28.53	1 47.736	+0 17.85	— 47.999
	Cybele	. .	46.5	54.9	29 46.38	4 52.742		
	(* 11)	56.3	4.4	13.3	30 4.67	4 39.432		
	Weisse III, 168	46.8	55.4	4.0	30 55.40	2 30.999	—1 9.02	47.605
F.								
	Weisse III, 139	35.6	44.2	52.9	36 44.23	1 48.300	+0 17.50	47.741
	Cybele	. .	1.8	10.3	37 1.73	4 53.048		
	(* 11)	11.3	20.4	28.7	37 20.13	3 52.925		
	Weisse III, 168	2.3	11.0	19.8	38 11.03	1 48.430	—1 9.30	47.611
	Weisse III, 139	18.8	27.1	35.5	43 27.13	1 48.548	+0 17.65	47.815
	Cybele	. .	44.7	53.2	43 44.78	4 53.470		
	(* 11)	54.6	2.8	11.6	44 3.00	3 52.915		
	Weisse III, 168	45.5	54.2	2.5	44 54.07	1 48.930	—1 9.29	47.533
	Weisse III, 139	26.5	34.5	43.3	52 34.77	1 48.862	+0 17.45	48.146
	Cybele	. .	52.1	0.6	52 52.22	4 54.015		
	(* 11)	2.0	10.8	19.5	53 10.77	3 53.672		
	Weisse III, 168	53.4	1.8	10.2	22 54 1.80	1 49.420	—1 9.58	47.588
	Weisse III, 139	20.5	28.8	37.5	23 2 28.93	1 49.415	+0 17.25	48.217
	Cybele	. .	46.1	54.7	2 46.18	4 54.639		
	Weisse III, 168	47.4	55.8	4.4	3 55.87	1 49.580	—1 9.69	48.052
	Cybele	43.5	52.0	0.6	5 52.03	4 46.972		
	Weisse III, 168	53.5	1.9	10.6	7 2.00	1 42.075	1 9.97	47.890
	Cybele	13.2	21.8	30.2	8 21.73	4 47.171		
	Weisse III, 168	23.2	31.7	40.5	9 31.80	1 42.135	1 10.07	48.029
	Cybele	25.7	34.1	42.8	10 34.20	4 47.025		
	Weisse III, 168	35.8	44.3	52.8	11 44.30	1 42.138	1 10.10	47.880
	Cybele	30.6	39.1	47.7	12 39.13	4 47.242		
	Weisse III, 168	40.7	49.0	57.8	13 49.17	1 42.365	1 10.04	47.870
	Cybele	41.4	49.8	58.2	15 49.80	4 47.688		
	Weisse III, 168	51.8	0.1	8.8	17 0.23	1 42.408	1 10.43	48.273
	Cybele	57.8	6.2	14.5	18 6.17	4 47.450		
	Weisse III, 168	7.8	16.5	25.7	19 16.67	1 42.464	1 10.50	47.979
	Cybele	47.2	55.6	4.4	20 55.73	4 47.700		
	Weisse III, 168	57.6	5.9	14.7	22 6.07	1 42.490	1 10.34	48.203
	Cybele	4.2	12.6	21.4	23 12.73	4 47.750		
	Weisse III, 168	14.5	23.3	31.8	24 23.20	1 42.760	1 10.47	47.983
	Cybele	13.8	22.3	30.8	25 22.30	4 48.040		
	Weisse III, 168	24.4	32.9	41.5	26 32.93	1 42.830	1 10.63	48.203
	Cybele	39.4	47.7	55.9	27 47.67	4 47.995		
	Weisse III, 168	49.8	58.5	7.1	23 28 58.47	1 42.800	—1 10.80	— 48.188
Nov. 14	Cybele	. .	. .	43.8	23 24 35.20	1 41.791		
	B. A. C. 987	41.2	49.4	58.2	25 49.60	3 42.318	—1 14.40	+ 30.443
F.								
	Cybele	41.4	49.9	58.5	28 49.93	1 41.828		
	B. A. C. 987	55.8	4.3	12.8	30 4.30	3 42.433	1 14.37	30.521
	Cybele	. .	20.4	28.7	32 20.30	1 41.825		
	B. A. C. 987	26.3	34.8	43.3	33 34.80	3 42.588	1 14.50	30.679
	Cybele	11.6	19.9	28.3	39 19.93	1 42.472		
	B. A. C. 987	26.2	34.6	43.2	40 34.67	3 42.908	1 14.74	30.352
	Cybele	25.7	34.3	42.5	43 34.17	1 42.612		
	B. A. C. 987	40.8	49.2	57.8	44 49.27	3 43.002	1 15.10	30.306
	Cybele	21.6	29.6	38.3	47 29.83	1 42.672		
	B. A. C. 987	36.2	44.8	53.4	23 48 44.80	3 43.081	—1 14.97	+ 30.325

RESULTS.

m. s.
Corr. Chron, + 1 32.72

	α h. m. s.	δ ° ′ ″
Weisse III, 139,	3 8 59.68	+13 21 4.24
Weisse III, 168,	3 10 26.82	+13 21 0.65

Cybele—Weisse III, 139,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	22 46 46.98	+ 0 17.54	—12 15.93
	Δ ρ	— .02	— .48
	p	— .15	— 1.66

Cybele—Weisse III, 168,

	h. m. s.		
Sid. T.	23 7 52.24	— 1 10.01	—12 15.05
	Δ ρ	— .02	— .48
	p	— .14	+ 1.60

m. s.
Corr. Chron. + 1 56.02

	α h. m. s.	δ ° ′ ″
B. A. C. 987,	3 3 58.97	+12 32 3.40

Cybele—B. A. C. 987,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	23 47 38.91	— 1 14.98	+ 7 46.69
	Δ ρ	.00	+ .21
	p	— .14	+ 1.60

CYBELE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 14	Cybele	. .	33.4	41.9	23 52 33.42	1 42.569			
F.	B. A. C. 987	40.2	48.6	57.2	53 48.67	3 43.280	—1 15.25	+ 30.627	
	Cybele	23.5	32.1	41.3	58 32.30	1 43.000			
	B. A. C. 987	39.0	47.4	55.8	59 47.40	3 43.458	1 15.10	30.374	
	Cybele	48.7	57.3	5.5	2 57.17	1 42.883			
	B. A. C. 987	4.3	12.8	21.3	4 12.80	3 43.489	1 15.63	30.522	
	Cybele	. .	56.4	5.4	6 56.62	1 43.423			
	B. A. C. 987	3.8	12.3	21.0	23 8 12.37	3 43.652	—1 15.75	+ 30.445	
Nov. 23	(* 9.5)	33.5	. .	58.4					m. s.
F.		37.3	46.0	54.4	1 20 45.92	1 46.530			Corr. Chron. + 2 19.33
	Cybele	1.6	. .	26.5					α δ
		5.6	13.8	22.5	21 14.00	2 46.172			h. m. s. ° ′ ″
	Weisse II, 1001	10.6	. .	35.7					Weisse II, 1001, 2 57 36.26 +12 7 58.67
		14.8	23.2	31.6	22 23.18	4 42.720	—1 9.18	+ 22.410	Cybele—Weisse II, 1001,
	(* 9.5)	59.3	. .	24.1					△α △δ
		2.8	11.5	20.0	27 11.54	1 47.100			h. m. s. m. s. ′ ″
	Cybele	26.7	. .	52.1					Sid. T. 1 31 28.03, — 1 9.55 + 5 43.62
		. .	39.3	47.8	27 39.29	2 46.660			Δρ .00 + .17
	Weisse II, 1001	36.7	. .	1.4					p — .06 + 1.33
		40.5	48.7	57.5	28 48.96	4 43.365	1 9.67	22.567	
	Cybele	59.6	. .	24.6					
		2.5	12.1	20.5	32 11.86	2 46.910			
	Weisse II, 1001	9.1	. .	34.1					
		13.2	21.6	30.0	33 21.60	4 43.420	1 9.74	22.372	
	Cybele	17.4	. .	42.0					
		21.3	29.4	38.0	35 29.62	2 46.975			
	Weisse II, 1001	26.8	. .	51.7					
		30.8	39.3	47.5	1 36 39.22	4 43.379	—1 9.60	+ 22.266	
Nov. 25	Cybele	27.0	. .	51.8					
F.		30.9	39.1	47.8	23 50 39.32	4 38.651			m. s.
	Weisse II, 1001	51.7	. .	16.8					Corr. Chron. + 2 24.51
		55.5	3.6	12.6	53 4.04	4 41.281	—2 24.72	+ 2.630	α δ
	Cybele	9.8	. .	34.6					h. m. s. ° ′ ″
		14.2	22.4	30.9	55 22.38	4 38.901			Weisse II, 1001, 2 57 36.27 +12 7 58.61
	Weisse II, 1001	34.8	. .	59.4					Cybele—Weisse II, 1001,
		39.0	47.4	56.3	23 57 47.38	4 41.582	2 25.00	2.681	△α △δ
	Cybele	36.1	. .	0.5					h. m. s. m. s. ′ ″
		39.8	48.2	56.6	0 1 48.24	4 39.252			Sid. T. 0 20 39.34 — 2 25.59 + 0 37.13
	Weisse II, 1001	0.6	. .	25.8					Δρ .00 + .01
		4.9	13.5	21.9	4 13.34	4 41.805	2 25.10	2.553	p — .10 + 1.47
	Cybele	2.5	. .	27.5					
		6.5	15.0	23.3	6 14.96	4 39.415			
	Weisse II, 1001	27.6	. .	53.1					
		31.8	40.3	48.8	8 40.32	4 41.732	2 25.36	2.317	
	Cybele	39.3	. .	4.1					
		43.2	51.6	59.6	17 51.56	4 39.759			
	Weisse II, 1001	4.8	. .	29.7					
		8.8	17.5	25.5	20 17.26	4 42.021	2 25.70	2.262	
	Cybele	27.8	. .	52.6					
		31.9	40.5	48.8	24 40.32	4 39.840			
	Weisse II, 1001	53.4	. .	19.3					
		57.4	5.6	14.3	27 6.00	4 42.115	2 25.68	2.275	
	Cybele	21.9	. .	46.4					
		26.4	34.3	43.2	29 34.44	4 39.705			
	Weisse II, 1001	48.4	. .	12.4					
		52.4	0.1	8.8	0 32 0.42	4 42.289	—2 25.98	+ 2.584	

(Continued.)

CYBELE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 25	Cybele	31.8	- -	56.3					
		35.4	43.9	52.4	0 33 43.96	4 40.117			
	Weisse II, 1001	57.4	- -	22.5					
		1.4	9.9	18.2	36 9.88	4 42.328	—2 25.92	+ 2.211	
F.									
	Cybele	55.9	- -	20.5					
		59.9	8.3	16.4	39 8.20	4 40.050			
	Weisse II, 1001	21.8	- -	46.6					
		25.8	34.3	43.1	41 34.32	4 42.520	2 26.12	2.470	
	Cybele	12.5	- -	37.1					
		16.5	25.2	33.3	43 24.92	4 40.278			
	Weisse II, 1001	38.6	- -	4.0					
		42.6	51.1	59.7	0 45 51.20	4 42.508	—2 26.28	+ 2.230	

FIDES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Nov. 25	Fides	15.9	. .	43.3					Corr. Chron. + 2 24.62
		20.2	29.6	38.7	1 11 29.54	1 45.978			α δ
	Weisse 2, IV, 1261	24.5	. .	51.8					h. m. s. ° ′ ″
		28.8	38.2	47.4	14 38.14	2 48.602	−3 8.60	+ 19.755	Weisse 2, IV, 1261, 4 56 13.75 +27 30 6.42
F.									
	Fides	5.3	. .	32.4					Fides—Weisse 2, IV, 1261,
		9.8	18.8	27.8	16 18.82	1 46.248			△ α △ δ
	Weisse 2, IV, 1261	13.6	. .	41.3					h. m. s. m. s. ′ ″
		18.2	27.6	36.9	19 27.52	2 48.542	3 8.70	19.425	Sid. T. 1 38 7.58 — 3 9.54 + 4 59.70
									Δ ρ .00 + .10
	Fides	18.3	. .	45.5					p — .32 + 2.29
		22.7	31.9	41.5	22 31.98	1 46.309			
	Weisse 2, IV, 1261	27.4	. .	54.5					
		31.6	40.9	50.3	25 40.94	2 48.765	3 8.96	19.587	
	Fides	59.5							
		4.0	13.2	22.0	26 13.04	1 46.375			
	Weisse 2, IV, 1261	8.9	. .	36.1					
		13.2	22.6	31.9	30 22.54	2 48.748	3 9.50	19.504	
	Fides	39.5	. .	6.5					
		43.8	52.9	2.3	32 53.00	1 46.492			
	Weisse 2, IV, 1261	48.8	. .	16.1					
		53.3	2.3	11.8	36 2.46	2 49.021	3 9.46	19.660	
	Fides	20.7	. .	48.1					
		25.3	34.5	43.8	39 34.48	1 46.898			
	Weisse 2, IV, 1261	30.6	. .	58.7					
		34.7	43.8	53.2	42 44.20	2 49.338	3 9.72	19.571	
	Fides	36.2	. .	2.9					
		40.6	49.8	59.0	44 49.70	1 47.020			
	Weisse 2, IV, 1261	46.3	. .	13.1					
		50.0	59.5	8.6	47 59.50	2 49.292	3 9.80	19.403	
	Fides	31.3	. .	58.6					
		35.8	44.9	54.3	49 44.98	1 47.048			
	Weisse 2, IV, 1261	41.4	. .	8.8					
		45.6	55.0	4.5	52 55.06	2 49.432	3 10.08	19.515	
	Fides	10.3	. .	37.6					
		14.6	23.8	33.4	54 23.94	1 47.091			
	Weisse 2, IV, 1261	20.4	. .	47.8					
		25.2	34.1	43.4	57 34.18	2 49.459	3 10.24	19.499	
	Fides	56.1	. .	23.6					
		0.9	10.2	19.6	59 10.08	1 47.433			
	Weisse 2, IV, 1261	6.9	. .	34.3					
		11.2	20.3	29.6	1 2 20.46	2 49.790	−3 10.38	+ 19.488	
									m. s.
Nov. 29	Weisse 2, IV, 1047	26.4	35.8	45.2	1 20 35.80	2 42.562	+1 30.50	− 11.913	Corr. Chron. + 2 39.57
	Fides	57.2	6.0	15.7	22 6.30	3 41.690			α δ
H.									h. m. s. ° ′ ″
	Weisse 2, IV, 1047	59.3	8.7	18.1	23 8.70	2 42.666	1 30.53	11.838	Weisse 2, IV, 1047, 4 47 31.23 +27 37 2.30
	Fides	30.0	39.2	48.5	24 39.23	3 41.719			
	Weisse 2, IV, 1047	28.9	38.1	47.6	25 38.20	2 42.654	1 30.50	11.958	Fides—Weisse 2, IV, 1047,
	Fides	59.4	8.6	18.1	27 8.70	3 41.827			△ α △ δ
									h. m. s. m. s. ′ ″
	Weisse 2, IV, 1047	31.3	40.6	50.2	28 40.70	2 42.755	1 30.20	11.902	Sid. T. 1 36 57.98 + 1 30.06 — 3 2.21
	Fides	1.6	10.9	20.2	30 10.90	3 41.872			Δ ρ .00 — .06
									p — .31 + 2.25
	Weisse 2, IV, 1047	4.0	13.3	22.5	31 13.27	2 42.783	1 30.13	11.922	
	Fides	34.2	43.4	52.6	32 43.40	3 41.920			
	Weisse 2, IV, 1047	34.6	43.9	53.1	33 43.87	2 42.923	1 29.93	11.740	
	Fides	4.6	13.8	23.0	35 13.80	3 41.878			
	Weisse 2, IV, 1047	4.7	13.9	23.3	36 13.97	2 42.907	1 29.93	11.862	
	Fides	34.6	43.9	53.2	37 43.90	3 41.984			
	Weisse 2, IV, 1047	54.0	3.2	12.7	40 3.30	2 42.994	+1 29.77	− 11.940	(Continued.)
	Fides	23.8	33.0	42.4	1 41 33.07	3 42.149			

FIDES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1864.		s	s.	s.	h. m. s.		m. s.	revs.
Nov. 29	Weisse 2, IV, 1047	57.3	6.6	16.1	1 43 6.67	2 43.140	+1 29.66	— 11.872
H.	Fides - - - -	27.0	36.4	45.6	44 36.33	3 42.227		
	Weisse 2, IV, 1047	29.7	39.0	48.4	45 39.03	2 43.208	+1 29.47	— 11.857
	Fides - - - -	59.1	8.5	17.9	1 47 8.50	3 42.280		
Nov. 30	Weisse 2, IV, 1047	43.7	53.3	2.5	2 13 53.17	3 37.718	+0 26.26	— 14.301
F.	Fides - - - -	10.3	19.5	28.6	14 19.43	4 38.942		
	Weisse 2, IV, 1047	16.3	25.6	34.9	15 25.60	3 37.679	0 26.27	14.378
	Fides - - - -	42.5	51.9	1.2	15 51.87	4 38.980		
	Weisse 2, IV, 1047	20.3	29.3	38.7	30 29.43	3 37.670	0 25.70	14.407
	Fides - - - -	45.6	55.3	4.5	30 55.13	4 39.000		
	Weisse 2, IV, 1047	42.6	51.6	1.0	33 51.73	3 38.000	0 25.40	14.339
	Fides - - - -	7.7	17.4	26.3	34 17.13	4 39.262		
	Weisse 2, IV, 1047	48.7	58.2	7.5	36 58.13	3 38.142	0 25.40	14.398
	Fides - - - -	14.2	23.5	32.9	37 23.53	4 39.463		
	Weisse 2, IV, 1047	2.6	11.9	21.2	40 11.90	3 38.100	0 25.10	14.246
	Fides - - - -	27.6	36.9	46.5	40 37.00	4 39.269		
	Weisse 2, IV, 1047	14.8	23.8	33.4	44 24.00	3 38.285	0 25.03	14.093
	Fides - - - -	39.8	49.1	58.2	44 49.03	4 39.301		
	Weisse 2, IV, 1047	21.2	30.4	39.9	46 30.50	3 38.310	0 25.00	14.242
	Fides - - - -	46.2	55.6	4.7	46 55.50	4 39.475		
	Weisse 2, IV, 1047	59.1	8.2	17.7	49 8.33	3 38.292	+0 24.84	— 14.357
	Fides - - - -	23.9	33.2	42.4	2 49 33.17	4 39.572		

RESULTS.

m. s.
Corr. Chron. + 2 42.74

	α	δ
	h. m. s.	° ′ ″
Weisse 2, IV, 1047,	4 47 31.24	+27 37 2.30

Fides—Weisse 2, IV, 1047,

		Δ α	Δ δ
	h. m. s.	m. s.	′ ″
Sid. T.	2 37 40.72	— 0 25.44	— 3 39.43
	Δ ρ	.00	— .06
	p	— .22	+ 1.81

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Dec. 6	Fortuna	52.2	. .	18.0					Corr. Chron. + 2 53.07
		56.3	5.0	14.0	1 23 5.10	3 35.193			α δ
H.	Rumker 1473	2.2	. .	28.2					h. m. s. ° ′ ″
		6.3	15.2	24.1	23 15.20	3 29.503	—0 10.10	+ 5.690	Rumker 1473, 5 27 23.21 +21 6 38.62
	Fortuna	36.6	. .	2.9					Fortuna—Rumker 1473,
		40.8	49.8	58.4	26 49.70	3 35.300			△ α △ δ
	Rumker 1473	47.0	. .	13.1					h. m. s. m. s. ′ ″
		51.2	0.0	9.0	27 0.06	3 29.605	0 10.36	5.695	Sid. T. 1 33 41.17 — 0 10.55 + 1 27.47
									Δ ρ .00 + .04
	Fortuna	30.2	. .	56.3					p — .35 + 3.19
		34.5	43.3	52.2	29 43.30	3 35.354			
	Rumker 1473	40.9	. .	6.8					
		45.0	53.8	2.6	29 53.82	3 29.677	0 10.52	5.677	
	Fortuna	44.4	. .	10.3					
		48.6	57.4	6.2	31 57.38	3 35.464			
	Rumker 1473	54.9	. .	21.0					
		59.0	8.0	16.8	32 7.94	3 29.744	0 10.56	5.720	
	Fortuna	0.1	. .	26.1					
		4.3	13.1	21.9	35 13.10	3 35.647			
	Rumker 1473	11.0	. .	37.0					
		15.0	23.9	32.7	35 23.92	3 29.895	0 10.82	5.752	
	Fortuna	47.0	. .	13.0					
		51.1	0.1	8.9	38 0.02	3 35.708			
	Rumker 1473	57.8	. .	24.0					
		2.1	11.0	19.8	1 38 10.94	3 30.020	—0 10.92	+ 5.688	
Dec. 7	Fortuna	15.6	24.0	33.1	8 37 24.23	3 32.159			m. s.
	Rumker 1473	29.6	38.0	47.5	38 38.37	3 31.670	—1 14.14	— 0.489	Corr. Chron. — 4 36.32
	Σ. C. Gen. 599	27.0	. .	44.7	39 35.85	3 35.461	2 11.62	+ 3.302	α δ
F.									h. m. s. ° ′ ″
	Fortuna	25.0	33.7	42.6	42 33.77	3 32.403			Rumker 1473, 5 27 23.22 +21 6 38.61
	Rumker 1473	40.1	48.5	57.5	43 48.70	3 31.869	1 14.93	— 0.534	Σ. Cat. G. 599, 5 28 22.91 +21 5 43.46
	Σ. C. Gen. 599	.	46.5	55.5	44 46.70	3 35.908	2 12.93	+ 3.505	Fortuna—Rumker 1473,
	Fortuna	17.0	25.7	34.5	48 25.73	3 32.460			△ α △ δ
	Rumker 1473	31.7	40.2	49.5	49 40.47	3 31.928	1 14.74	— 0.532	h. m. s. m. s. ′ ″
	Σ. C. Gen. 599	. .	. .	46.5	50 37.47	3 35.824			M. T. 8 58 17.67 — 1 15.65 — 0 8.62
									Δ t — .21
	Fortuna	25.0	34.0	42.4	54 43.80	3 32.703			Δ ρ .00 .00
	Rumker 1473	40.1	49.0	58.1	55 49.07	3 32.130	1 15.27	— 0.573	p — .31 + 2.92
	Σ. C. Gen. 599	38.0	46.5	56.0	8 56 46.83	3 33.940	2 13.03	+ 3.237	Fortuna—Σ. Cat. G. 599,
	Fortuna	16.7	25.3	34.0	9 10 25.33	3 33.280			h. m. s.
	Rumker 1473	32.5	. .	50.7	11 41.60	3 32.650	1 16.27	— 0.630	M. T. 8 56 32.50 — 2 13.46 + 0 50.29
	Σ. C. Gen. 599	30.6	39.5	. .	12 39.35	3 36.456	2 14.02	+ 3.176	Δ t — .37
									Δ ρ .00 + .02
	Fortuna	19.0	27.5	36.5	17 27.66	3 33.259			p — .31 + 2.92
	Rumker 1473	35.7	44.1	52.6	18 44.13	3 32.778	1 16.47	— 0.481	
	Σ. C. Gen. 599	. .	41.5	50.5	19 41.78	3 36.569	2 14.12	+ 3.310	
	Fortuna	9.5	18.0	27.0	24 18.17	3 33.793			
	Rumker 1473	26.0	34.0	43.7	25 34.57	3 33.142	1 16.40	— 0.651	
	Σ. C. Gen. 599	23.5	32.2	41.0	26 32.23	3 36.930	2 14.06	+ 3.137	
	Fortuna	34.2	43.2	52.0	27 43.13	3 33.820			
	Rumker 1473	51.2	0.1	9.0	9 20 0.10	3 33.218	—1 16.97	— 0.602	
	Σ. C. Gen. 599	49.1	59.6						
Dec. 14	Weisse 2, V, 478	28.7	37.6	46.5	2 27 37.60	2 44.479	+0 44.87	— 18.894	
	Weisse 2, V, 486	39.6	48.5	57.4	27 48.50	1 38.312			
	Fortuna	13.6	22.4	31.4	28 22.47	4 37.511			
F.									
	Weisse 2, V, 478	27.2	36.0	44.8	30 36.00	2 44.638	0 44.63	18.944	
	Fortuna	11.8	20.6	29.5	31 20.63	4 37.720			
	Weisse 2, V, 478	6.1	15.3	24.2	33 15.20	2 44.600	+0 44.50	— 19.322	
	Fortuna	50.8	59.7	8.6	2 33 59.70	4 38.060			

(Continued.)

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ *a*	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Dec. 14	Weisse 2, V, 478 .	19.5	28.2	37.3	2 35 28.33	2 31.535	+0 44.11	— 19.352	Corr. Chron. + 3 13.80
	Fortuna	3.4	12.5	21.4	36 12.43	4 37.810			*a* *δ*
F.									h. m. s. ° ′ ″
	Weisse 2, V, 478 .	28.3	37.3	46.2	37 37.27	2 44.605	0 44.33	19.382	Weisse 2, V, 478, 5 17 50.40 +21 0 26.40
	Fortuna	12.7	21.6	30.5	38 21.60	4 38.125			
									Fortuna—Weisse 2, V, 478,
	Weisse 2, V, 478 .	9.8	18.5	27.4	40 18.57	2 44.552	0 44.23	19.482	Δ *a* Δ *δ*
	Fortuna	53.8	2.8	11.8	41 2.80	4 38.172			h. m. s. m. s. ′ ″
									Sid. T. 2 48 42.43 + 0 44.18 — 4 57.16
	Weisse 2, V, 478 .	37.6	46.5	55.5	42 46.53	2 44.711	0 43.97	19.333	Δ *ρ* .00 — .10
	Fortuna	21.6	30.5	39.4	43 30.50	4 38.182			*p* — .24 + 2.53
	Weisse 2, V, 478 .	57.2	6.1	15.0	45 6.10	2 44.713	0 44.13	19.438	
	Fortuna	41.3	50.2	59.2	45 50.23	4 38.289			
	Weisse 2, V, 478 .	19.6	28.6	37.7	47 28.63	2 44.819	0 43.77	19.243	
	Fortuna	3.6	12.4	21.2	48 12.40	4 38.200			
	Weisse 2, V, 478 .	25.9	34.6	43.6	49 34.70	2 44.772	0 43.80	19.449	
	Fortuna	9.5	18.5	27.5	50 18.50	4 38.359			
	Weisse 2, V, 478 .	41.2	49.9	58.8	51 49.97	2 44.739	0 43.76	19.568	
	Fortuna	24.8	33.7	42.7	52 33.73	4 38.445			
	Weisse 2, V, 478 .	33.8	42.8	51.7	53 42.77	2 44.795	0 43.70	19.522	
	Fortuna	17.7	26.5	35.2	54 26.47	4 38.453			
	Weisse 2, V, 478 .	13.2	21.8	30.6	56 21.87	2 44.832	0 43.60	19.560	
	Fortuna	56.7	5.4	14.3	57 5.47	4 38.530			
	Weisse 2, V, 478 .	13.9	22.7	31.7	58 22 77	2 44.873	0 43.63	19.542	
	Fortuna	57.4	6.5	15.3	2 59 6.40	4 38.553			
	Weisse 2, V, 478 .	15.4	24.2	33.4	3 0 24.33	2 44.860	+0 43.24	— 19.595	
	Fortuna	58.7	7.5	16.5	3 1 7.57	4 38.593			

EUTERPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ a	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Dec. 14	* W (132)	41.2	- -	7.5					Corr. Chron. + 3 14.48
		45.5	54.2	3.4	3 29 54.36	4 36.306	+0 8.86	+ 29.089	a δ
	Euterpe	49.8	- -	16.5					h. m. s. ° ′ ″
F.		- -	- -	12.4	30 3.22	2 33.079			* W (132,) 7 1 40.00 +22 34 27.00
	Σ. Cat. G. 825	58.0	- -	24.4					Σ. Cat. G. 825 p, 7 3 56.58 +22 29 49.52
		2.2	11.3	20.3	32 11.24	5 37.231	—2 8.02	47.022	
	* W (132)	42.4	- -	8.6					Euterpe—* W (132,)
		46.5	55.3	5.0	34 55.56	4 36.235	+0 8.97	29.082	Δ a Δ δ
	Euterpe	51.4	- -	17.7					h. m. s. m. s. ′ ″
		- -	4.6	13.5	35 4.53	2 33.015			Sid. T. 3 54 44.23 + 0 8.39 + 7 28.58
	Σ. Cat. G. 825	- -	- -	25.8					Δ ρ .00 + .15
		3.3	12.9	21.5	37 12.58	5 37.446	—2 8.05	47.301	p — .35 + 3.19
	* W (132)	6.5	- -	33.6					Euterpe—Σ. Cat. G. 825 p,
		10.6	- -	28.4	42 19.77	4 36.510	+0 8.48	29.199	h. m. s.
	Euterpe	15.0	- -	41.3					Sid. T. 3 42 7.60 — 2 8.17 +12 6.10
		19.5	- -	37.2	42 28.25	2 33.173			Δ ρ .00 + .26
	Σ. Cat. G. 825	23.2	- -	49.6					p — .37 + 3.31
		27.5	36.5	45.5	44 36.47	5 37.778	—2 8.22	47.475	
	* W (132)	34.7	- -	1.1					
		38.8	- -	56.9	47 47.87	4 36.623	+0 8.60	29.312	
	Euterpe	43.2	- -	9.6					
		47.6	- -	5.5	47 56.47	2 33.173			
	Σ. Cat. G. 825	51.6	- -	17.9					
		56.3	4.7	13.8	50 4.86	5 37.872	—2 8.39	47.569	
	* W (132)	52.0	- -	18.3					
		56.2	- -	14.1	54 5.15	4 36.761	+0 8.27	29.094	
	Euterpe	0.3	- -	26.4					
		4.6	- -	22.4	54 13.42	2 33.529			
	* W (132)	58.1	- -	24.3					
		2.1	- -	20.2	56 11.17	4 36.935	0 8.37	29.325	
	Euterpe	6.4	- -	32.8					
		- -	- -	28.5	56 19.54	2 33.472			
	* W (132)	52.4	- -	18.7					
		56.6	- -	14.4	58 5.52	4 37.003	0 8.23	29.455	
	Euterpe	0.6	- -	27.0					
		4.8	- -	22.6	3 58 13.75	2 33.410			
	* W (132)	20.6	- -	47.1					
		24.8	34.0	42.8	4 1 33.86	4 36.960	0 8.16	29.230	
	Euterpe	28.8	- -	55.2					
		33.1	42.1	50.9	1 42.02	2 33.592			
	* W (132)	15.2	- -	41.5					
		19.1	28.3	37.3	3 28.28	4 37.101	0 8.12	29.278	
	Euterpe	23.2	- -	49.6					
		27.5	36.4	45.3	3 36.40	2 33.685			
	* W (132)	58.7	- -	25.2					
		3.2	12.2	21.1	5 12.08	4 37.061	+0 7.88	+ 29.410	
	Euterpe	6.8	- -	33.2					
		11.0	20.0	28.8	4 5 19.96	2 33.513			
Dec. 22	Euterpe	25.4	- -	51.7					m. s.
		29.8	38.6	47.4	4 37 38.58	1 43.305			Corr. Chron. + 3 33.95
	ω² Geminorum	6.7	- -	33.2					a δ
		11.0	20.0	28.9	40 19.96	5 32.884	—2 41.38	+ 49.580	h. m. s. ° ′ ″
H.									ω² Geminorum, 6 59 12.87 +22 50 2.49
	Euterpe	57.0	- -	23.5					
		1.4	10.0	19.2	42 10.22	1 43.356			Euterpe—ω² Geminorum,
	ω² Geminorum	38.5	- -	5.0					Δ a Δ δ
		42.7	51.6	0.8	44 51.72	5 32.868	2 41.50	49.513	h. m. s. m. s. ′ ″
									Sid. T. 5 2 6.35 — 2 42.27 +12 42.96
	Euterpe	10.4	- -	37.0					Δ ρ .00 + .24
		14.6	23.4	32.6	47 23.60	1 43.398			p — .24 + 2.67
	ω² Geminorum	52.0	- -	18.4					
		56.2	5.3	14.2	4 50 5.22	5 33.100	—2 41.62	+ 49.703	

(Continued.)

EUTERPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ *a*	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Dec. 22 H.	Euterpe	45.7	. .	12.0					
		50.0	58.9	7.8	4 51 58.88	1 43.391			
	ω^2 Geminorum	27.5	. .	54.2					
		31.8	40.8	49.9	54 40.84	5 33.157	—2 41.94	+ 49.767	
	Euterpe	4.0	. .	30.2					
		8.2	17.3	26.1	56 17.16	1 43.474			
	ω^2 Geminorum	46.2	. .	12.7					
		50.3	59.3	8.2	4 58 59.34	5 33.188	2 42.18	49.715	
	Euterpe	5.4	. .	32.0					
		9.9	18.7	27.7	5 1 18.74	1 43.585			
	ω^2 Geminorum	48.0	. .	14.2					
		52.1	1.0	10.1	4 1.08	5 33.279	2 42.34	49.695	
	Euterpe	22.3	. .	48.8					
		26.6	35.6	44.5	5 35.56	1 43.496			
	ω^2 Geminorum	5.1	. .	31.7					
		9.3	18.2	27.3	8 18.32	5 33.390	2 42.76	49.895	
	Euterpe	26.8	. .	53.2					
		31.0	40.0	49.1	9 40.02	1 43.630			
	ω^2 Geminorum	9.5	. .	36.0					
		14.0	22.7	31.9	12 22.82	5 33.325	2 42.80	49.696	
	Euterpe	14.3	. .	40.8					
		18.3	27.4	36.5	14 27.46	1 43.647			
	ω^2 Geminorum	57.4	. .	23.3					
		1.6	10.3	19.4	17 10.40	5 33.648	2 42.94	50.002	
	Euterpe	40.8	. .	6.8					
		44.7	53.6	2.8	18 53.74	1 43.779			
	ω^2 Geminorum	24.0	. .	50.0					
		28.0	37.0	46.0	5 21 37.00	5 33.674	—2 43.26	+ 49.896	

TERPSICHORE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Dec. 22	Terpsichore . . .	50.1	58.2	6.9	2 29 58.40				m. s. Corr. Chron. + 3 33.73
	Weisse 0,247 . .	26.0	34.1	42.7	30 34.27	. . .	—0 35 87		α δ
H.									h. m. s. ° ′ ″
	Terpsichore . . .	16.9	25.0	33.2	31 25.03				Weisse 0,247, 0 15 3.56 + 6 15 52.99
	Weisse 0,247 . .	52.4	1.0	9.2	32 0.87	. . .	0.35.84		
									Terpsichore—Weisse 0,247,
	Terpsichore . . .	30.6	38.7	47.3	32 38.87				△ α △ δ
	Weisse 0,247 . .	6.1	14.5	23.0	33 14.53	. . .	0 35.66		h. m. s. m. s. ′ ″
									Sid. T. 2 43 14.39 — 0 35.56 + 9 1.22
	Terpsichore . . .	. .	. .	. .	35 47.00	1 49.790			Δ ρ .00 + .27
	Weisse 0,247 . .	. .	. .	. .	. . .	3 55.050	. . .	+ 35.176	
	Terpsichore . . .	. .	. .	. .	39 41.00	1 49.556			
	Weisse 0,247 . .	. .	. .	. .	. . .	3 54.975	. . .	35.335	The planet very difficult to observe. A correction of —0r.062 has been applied to Δ δ in order to reduce to the time of Δ α.
	Terpsichore . . .	41.1	49.2	57.3	42 49.20				
	Weisse 0,247 . .	16.5	24.7	33.1	43 24.77	. . .	0 35.57		
	Terpsichore . . .	11.8	19.9	28.3	44 20.00				
	Weisse 0,247 . .	47.2	55.4	3.9	44 55.50	. . .	0 35.50		
	Terpsichore . . .	22.7	31.0	39.2	45 30.97				
	Weisse 0,247 . .	57.9	6.0	14.4	46 6.10	. . .	0 35.13		
	Terpsichore . . .	. .	. .	. .	46 42.00	1 49.312			
	Weisse 0,247 . .	. .	. .	. .	. . .	3 54.941	. . .	35.545	
	Terpsichore . . .	. .	. .	. .	48 30.00	1 49.390			
	Weisse 0,247 . .	. .	. .	. .	. . .	3 54.820	. . .	+ 35.346	
	Terpsichore . . .	54.0	2.2	10.3	51 2.17				
	Weisse 0.247 . .	29.2	37.5	45.9	2 51 37.53	. . .	—0 35.36		
									m. s.
Dec. 24	Terpsichore . . .	13.4	22.0	30.3	1 46 21.90	1 35.350			Corr. Chron. + 3 38.61
	Weisse 0,302 . .	30.0	37.7	46.6	48 38.10	5 41.530	—2 16.20	— 66.181	α δ
H.									h. m. s. ° ′ ″
	Terpsichore . . .	55.0	3.7	11.3	51 3.33	1 35.510			Weisse 0,302, 0 18 44.65 + 6 56 48.85
	Weisse 0,302 . .	11.1	19.1	27.8	53 19.33	5 41.470	2 16.00	65.961	
									Terpsichore—Weisse 0,302,
	Terpsichore . . .	44.0	51.7	0.6	56 52.10	1 35.565			△ α △ δ
	Weisse 0,302 . .	0.2	8.2	17.0	1 59 8.46	5 41.460	2 16.36	65.896	h. m. s. m. s. ′ ″
									Sid. T. 2 13 0.35 — 2 15.55 —16 45.54
	Terpsichore . . .	15.2	23.5	32.0	2 1 23.57	1 35.614			Δ ρ — .01 — .43
	Weisse 0,302 . .	31.3	39.7	47.8	3 39.60	5 41.420	2 16.03	65.807	
	Terpsichore . . .	15.8	24.3	32.8	5 24.30	1 35.714			The planet very difficult to observe.
	Weisse 0,302 . .	31.9	40.1	48.4	7 40.13	5 41.444	2 15.83	65.731	
	Terpsichore . . .	27.0	35.7	44.0	9 35.57	1 35.735			
	Weisse 0,302 . .	42.9	50.7	59.3	11 50.97	5 41.390	2 15.40	65.656	
	Terpsichore . . .	9.6	18.2	26.7	19 8.17	1 36.290			
	Weisse 0,302 . .	25.0	32.8	42.0	21 33.27	5 41.526	2 15.10	65.237	
	Terpsichore . . .	12.0	20.3	28.6	23 20.30	1 36.070			
	Weisse 0,302 . .	27.0	34.4	43.4	25 34.93	5 41.493	2 14.63	65.424	
	Terpsichore . . .	3.2	11.4	20.0	28 11.53	1 36.374			
	Weisse 0,302 . .	18.0	26.6	35.0	30 26.53	5 41.456	2 15.00	65.083	
	Terpsichore . . .	8.3	16.3	25.4	32 16.67	1 36.880			
	Weisse 0,302 . .	23.4	31.0	40.4	2 34 31.60	5 41.515	—2 14.93	— 64.636	
Dec. 27	Weisse 0,302 . .	25.6	34.0	42.2	3 30 33.93	3 43.840	+0 59.74	+ 28.899	
	Terpsichore . . .	25.3	33.4	42.3	31 33.67	5 42.654			
H.									
	Weisse 0,302 . .	14.0	22.5	30.7	33 22.40	3 43.876	0 60.40	29.277	
	Terpsichore . . .	14.2	23.3	30.9	34 22.80	5 43.068			
	Weisse 0,302 . .	16.5	25.1	33.7	36 25.10	3 43.816	+0 59.53	+ 29.545	
	Terpsichore . . .	16.5	24.0	33.4	3 37 24.63	5 43.276			

(Continued.)

TERPSICHORE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Dec. 27	Weisse 0, 302 . .	57.1	5.6	14.0	3 39 5.57	3 43.996	+0 60.00	+ 29.353	m. s.
	Terpsichore . . .	57.8	5.1	13.8	40 5.57	5 43.264			Corr. Chron. + 3 46.00
H.									α δ
	Weisse 0, 302 . .	29.0	37.4	45.7	41 37.37	3 44.024	0 59.93	29.397	h. m. s. ° ′ ″
	Terpsichore . . .	29.3	36.6	46.0	42 37.30	5 43.336			Weisse 0, 302, 0 18 44.62 + 6 56 47.62
	Weisse 0, 302 . .	21.4	29.9	38.1	45 29.80	3 44.067	0 60.67	29.504	Terpsichore—Weisse 0, 302,
	Terpsichore . . .	22.3	30.2	38.9	46 30.47	5 43.486			△ α △ δ
									h. m. s. m. s. ′ ″
	Weisse 0, 302 . .	10.0	18.1	26.6	48 18.23	3 44.137	0 60.17	29.592	Sid. T. 3 45 30.59 + 1 0.14 + 7 31.01
	Terpsichore . . .	10.0	18.2	27.0	49 18.40	5 43.644			Δ ρ — .01 + .24
	Weisse 0, 302 . .	55.2	3.0	11.4	51 3.20	3 44.093	+0 60.67	+ 29.678	
	Terpsichore . . .	55 3	3.9	12.4	3 52 3.87	5 43.686			The planet very difficult to observe.

The observations of Terpsichore have not been corrected for parallax.

PLEIADES.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ *a*	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 12	A. 1	46.5	55.8	5.1	23 16 55.80	3 37.960	—2 1.80	— 17.814
	A. 3	55.5	4.7	13.6	17 4.60	2 39.651	1 53.00	6.720
	A. 7	12.0	20.9	29.8	17 20.90	3 36.880	1 36.70	16.734
	A. 13	24.0	33.3	42.3	18 33.20	4 33.268	0 24.40	26.199
	η Tauri	48.5	57.6	6.7	18 57.60	2 32.931		
F.								
	A. 1	57.1	.	.	23 6.03	3 38.280	2 2.17	17.974
	A. 3	6.2	15.1	24.1	23 15.13	2 39.658	1 53.07	6.567
	A. 7	22.5	31.5	40.6	23 31.53	3 37.102	1 36.67	16.796
	A. 13	34.8	43.9	52.8	24 43.83	4 33.416	0 24.37	26.187
	η Tauri	59.3	8.1	17.2	25 8.20	2 33.091		
	A. 1	12.5	22.0	31.1	34 21.87	3 38.800	2 1.96	18.106
	(* 12)	21.8	30.7	40.3	34 30.93	2 40.192	1 52.90	6.713
	A. 7	38.5	.	.	34 47.43	3 37.372	1 36.40	16.678
	A. 11	25.5	34.4	43.6	35 34.50	2 34.411	0 49.33	0.932
	A. 13	50.6	59.5	8.8	35 59.63	4 33.792	0 24.20	26.175
	η Tauri	14.9	23.8	32.8	36 23.83	2 33.479		
	A. 1	0.4	9.9	18.9	45 9.73	3 38.760	2 1.97	18.101
	(* 12)	9.6	18.6	27.7	45 18.63	2 40.280	1 53.07	6.836
	A. 7	26.1	35.1	44.0	45 35.07	3 37.745	1 36.63	17.086
	A. 11	13.5	22.5	31.4	46 22.47	2 34.420	0 49.23	0.976
	A. 13	38.5	47.5	56.4	46 47.47	4 34.180	0 24.23	26.598
	η Tauri	2.8	11.6	20.7	47 11.70	2 33.444		
	A. 1	11.3	20.5	29.5	52 20.43	2 38.972	2 1.97	17.982
	(* 12)	20.3	29.2	38.4	52 29.30	2 40.219	1 53.10	6.444
	A. 7	36.6	45.6	54.8	52 45.67	3 37.655	1 36.73	16.665
	A. 11	24.1	32.9	42.1	53 33.03	2 34.808	0 49.37	1.033
	A. 13	49.2	58.0	7.2	53 58.13	4 34.283	0 24.27	26.370
	η Tauri	13.3	22.4	31.5	23 54 22.40	2 33.775		
	A. 1	57.7	7.4	16.2	0 1 7.10	3 39.008	2 2.00	17.873
	(* 12)	7.2	16.0	24.8	1 16.00	2 40.490	1 53.10	6.570
	A. 7	.	. 32.2	41.5	1 32.45	3 37.939	1 36.65	16.804
	A. 11	10.5	19.6	28.7	2 19.60	2 35.302	0 49.50	1.382
	A. 13	35.8	44.8	53.8	2 44.80	4 34.238	0 24.30	26.180
	η Tauri	0.2	8.9	18.2	3 9.10	2 33.920		
	A. 1	31.3	40.6	49.4	7 40.43	3 39.232	2 2.20	17.845
	(* 12)	40.4	49.2	58.2	7 49.27	2 40.770	1 53.36	6.598
	A. 7	56.7	5.6	14.8	8 5.70	3 38.029	1 36.93	16.642
	A. 11	44.1	52.9	2.0	8 53.00	2 35.173	0 49.63	1.001
	A. 13	9.3	18.4	27.3	9 18.33	4 34.710	0 24.30	26.400
	η Tauri	33.6	42.5	51.8	9 42.63	2 34.172		
	A. 1	23.6	32.8	41.5	15 32.63	3 39.430	2 2.27	17.752
	(* 12)	32.6	41.3	50.7	15 41.53	2 40.969	1 53.37	6.506
	A. 7	49.2	58.0	7.2	15 58.13	3 38.378	1 36.77	16.700
	A. 11	36.3	45.4	54.4	16 45.37	2 35.378	0 49.53	0.915
	A. 13	1.5	10.6	19.6	17 10.57	4 34.822	0 24.33	26.221
	η Tauri	25.9	34.8	44.0	17 34.90	2 34.463		
	A. 1	16.8	25.7	35.2	23 25.90	3 39.864	2 2.37	17.811
	(* 12)	26.1	35.0	44.0	23 35.03	2 41.345	1 53.23	6.507
	A. 7	42.5	51.4	0.3	23 51.40	3 38.703	1 36.87	16.650
	A. 11	29.6	38.9	47.8	24 38.77	2 35.886	0 49.50	1.048
	A. 13	54.9	3.8	12.9	25 3.87	4 35.248	—0 24.40	— 26.272
	η Tauri	19.4	28.2	37.2	0 25 28.27	2 34.838		
Oct. 14	23 *d* Merope	34.1	42.9	52.0	22 26 43.00	1 36.990		
	A. 19	35.9	44.9	53.6	27 44.80	3 40.415	+1 1.80	— 33.341
	A. 22	38.7	47.9	56.8	27 47.80	1 44.231	1 4.80	7.241
F.								
	23 *d* Merope	33.1	41.9	51.2	34 42.07	1 37.075		
	A. 19	34.7	43.9	53.1	35 43.90	3 40.490	1 1.83	33.331
	A. 22	37.8	46.9	56.0	35 46.90	1 44.294	1 4.83	7.219
	23 *d* Merope	52.9	2.2	11.2	38 2.10	1 37.395		
	A. 19	54.8	3.7	12.9	39 3.80	3 40.629	1 1.70	33.150
	A. 22	58.1	.	15.8	22 39 6.95	1 44.547	+1 4.85	— 7.152

RESULTS.

m s.
Corr. Chron. + 0 55.20

	a h. m. s.	*δ* ° ′ ″
η Tauri	3 39 29.02	+23 41 5.12

	Δ *a* m. s.	Δ *ρ* s.	Δ *δ* ′ ″	Δ *ρ* ″
A. 1—η Tauri,	—2 2.08	.00	— 4 34.80	— .11
A. 3—η Tauri,	—1 53.13	.00	— 1 41.23	— .02
A. 7—η Tauri,	—1 36.71	.00	— 4 16.92	— .10
A. 13—η Tauri,	—0 24.31	.00	— 6 43.20	— .16
A. 11—η Tauri	—0 49.44	.00	0 15.96	01

m. s.
Corr. Chron. + 0 57.32

	a h. m. s.	*δ* ° ′ ″
23 *d* Merope	3 38 20.54	+23 31 29.90

	Δ *a* m. s.	Δ *ρ* s.	Δ *δ* ′ ″	Δ *ρ* ″
A. 19—23 *d* Merope,	+ 1 1.77	— .01	— 8 31.72	— .28
A. 22—23 *d* Merope,	+ 1 4.81	.00	— 1 50.19	— .06

(Continued.)

PLEIADES.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ *a*	Δ mic.
1864.		s.	s.	s.	h. m. s.	rev.	m. s.	revs.
Oct. 14	23 *d* Merope	31.9	41.1	50.2	22 51 41.07	1 37.910		
	A. 19	33.8	42.7	51.6	52 42.70	3 41.457	+1 1.63	— 33.463
	A. 22	36.7	45.7	54.8	52 45.73	1 45.070	1 4.63	7.160
F.								
	23 *d* Merope	22.6	31.6	40.7	54 34.63	1 38.019		
	A. 19	24.5	33.5	42.4	55 33.47	3 41.619	1 1.84	33.516
	A. 22	27.3	36.7	45.5	55 36.50	1 45.032	1 4.87	7.013
	23 *d* Merope	53.3	2.4	11.6	57 2.43	1 38.209		
	A. 19	55.3	4.3	13.4	58 4.33	3 41.485	1 1.90	33.192
	A. 22	58.3	7.3	16.3	22 58 7.30	1 45.250	1 4.87	7.041
	23 *d* Merope	0.6	9.6	18.8	23 2 7.67	1 38.161		
	A. 19	2.5	11.4	20.4	3 11.43	3 41.729	1 1.76	33.484
	A. 22	5.6	14.7	23.5	3 14.60	1 45.352	1 4.93	7.191
	23 *d* Merope	33.5	42.3	51.7	4 42.50	1 38.212		
	A. 19	35.3	44.3	53.6	5 44.40	3 41.781	1 1.90	33.485
	A. 22	38.4	47.5	56.6	5 47.50	1 45.566	1 5.00	7.354
	23 *d* Merope	58.7	7.8	17.2	7 7.90	1 38.421		
	A. 19	0.5	9.6	18.7	8 9.60	3 41.752	1 1.70	33.247
	A. 22	3.6	12.6	21.5	8 12.57	1 45.523	1 4.67	7.102
	23 *d* Merope	42.1	51.2	59.9	9 51.07	1 38.370		
	A. 19	43.8	52.7	1.7	10 52.73	3 41.897	1 1.67	33.443
	A. 22	46.7	55.7	4.7	23 10 53.70	1 45.739	+1 4.63	— 7.369
Nov. 4	23 *d* Merope	9.4	. .	35.6				
F.		13.4	22.4	31.6	0 34 22.48	1 42.979		
	A. 17	7.9	. .	34.4				
		12.0	21.2	30.5	35 21.20	4 52.011	+0 58.72	— 52.025
	A. 19	10.9	. .	. .				
		15.4	23.9	33.2	35 24.12	3 46.755	1 1.64	33.692
	A. 23	17.4	. .	43.6				
		21.6	30.5	39.5	35 30.52	5 46.262	1 8.04	63.284
	23 *d* Merope	51.9	. .	18.6				
		56.1	5.3	14.4	41 5.26	1 43.381		
	A. 17	50.9	. .	16.7				
		55.7	4.1	13.2	42 4.12	4 52.045	0 58.86	51.657
	A. 19	54.2	. .	20.4				
		58.1	7.1	16.7	42 7.30	3 46.822	1 2.04	33.357
	A. 23	.	. .	26.5				
		4.1	13.2	22.6	42 13.32	5 46.292	1 8.06	62.912
	23 *d* Merope	10.2	. .	36.4				
		14.4	23.5	32.4	45 23.38	1 43.401		
	A. 17	9.1	. .	35.3				
		13.1	22.6	31.5	46 22.32	4 52.113	0 58.94	51.705
	A. 19	12.1	. .	. .				
		16.3	25.0	34.2	46 25.14	3 46.770	1 1.76	33.285
	A. 23	18.5	. .	44.8				
		22.1	31.2	40.6	46 31.44	5 46.261	1 8.06	62.861
	23 *d* Merope	1.7	. .	28.3				
		6.2	14.8	24.0	54 15.00	1 43.729		
	A. 17	0.6	. .	27.2				
		5.0	14.1	23.0	55 13.98	4 52.470	0 58.98	51.734
	A. 19	3.6	. .	30.1				
		8.0	16.8	25.9	55 16.88	3 47.039	1 1.88	33.226
	A. 23	10.1	. .	36.5				
		14.4	23.2	32.2	0 55 23.28	5 46.552	1 8.28	62.824
	23 *d* Merope	9.8	. .	36.6				
		14.3	23.2	32.3	1 0 23.24	1 43.760		
	A. 17	8.9	. .	35.6				
		13.2	22.4	32.0	1 22.42	4 52.428	0 59.18	51.661
	A. 19	11.8	. .	38.5				
		16.3	25.2	34.2	1 25.20	3 47.125	1 1.96	33.281
	A. 23	18.4	.	44.9				
		22.5	31.6	40.6	1 1 31.60	5 46.780	+1 8.36	— 63.021

RESULTS.

m. s.
Corr. Chron. + 1 30.90

	a h. m. s.	*δ* ° ′ ″
23 *d* Merope	3 38 20.93	+23 31 31.23

	Δ *a* m. s.	Δ *ρ* s.	Δ *δ* ′ ″	Δ *ρ* ″
A. 17—23 *d* Merope,	+ 0 58.93	.00	—13 14.05	— .26
A. 19—23 *d* Merope,	+ 1 1.86	.00	— 8 31.49	— .17
A. 23—23 *d* Merope,	+ 1 8.16	.00	—16 5.80	— .31

(Continued.)

PLEIADES.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ a	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 4	23 *d* Merope	36.2	. .	2.5				
		40.5	49.2	58.3	1 4 49.34	1 43.883		
F.	A. 17 .	35.0	. .	1.5				
		39.2	48.2	57.2	5 48.22	4 52.739	+0 58.88	— 51.849
	A. 19 .	38.2	. .	4.5				
		42.2	51.2	0.1	5 51.24	3 47.213	1 1.90	33.246
	A. 23 .	44.2	. .	10.8				
		48.4	57.4	6.6	1 5 57.48	5 46.812	+1 8.14	— 62.930
Nov. 5	A. 23 .	18.2	26.8	36.2	0 0 27.07	1 43.972		
	A. 25 .	26.9	36.1	45.8	0 36.27	2 42.730	+0 9.20	— 15.889
	A. 26 .	33.2	42.4	51.4	0 42.33	3 45.460	0 15.26	31.404
	A. 28 .	11.8	20.7	29.8	1 20.77	5 43.843	0 53.70	59.872
F.								
	A. 23 .	50.0	58.6	7.6	4 58.73	1 44.155		
	A. 25 .	59.7	8.7	17.7	5 8.70	2 43.359	0 9.97	16.335
	A. 26 .	5.1	14.2	23.2	5 14.17	3 46.027	0 15.44	31.788
	A. 28 .	43.5	52.4	1.5	5 52.43	5 44.282	0 53.70	60.128
	A. 23 .	6.2	15.1	24.1	9 15.13	1 44.300		
	A. 25 .	15.9	24.7	33.9	9 24.83	2 43.240	0 9.70	16.071
	A. 26 .	21.2	30.4	39.5	9 30.37	3 45.978	0 15.24	31.594
	A. 28 .	59.7	8.6	17.8	10 8.70	5 44.125	0 53.57	59.826
	A. 23 .	51.2	0.2	9.2	14 0.20	1 44.519		
	A. 25 .	1.2	10.1	19.1	14 10.13	2 43.330	0 9.93	15.942
	A. 26 .	6.8	15.6	24.6	14 15.67	3 46.365	0 15.47	31.762
	A. 28 .	45.1	53.8	2.8	14 53.90	5 44.659	0 53.70	60.141
	A. 23 .	10.6	19.8	28.6	18 19.67	1 44.335		
	A. 25 .	20.6	28.7	38.3	18 29.20	2 43.578	0 9.53	16.374
	A. 26 .	25.9	35.1	43.7	18 34.90	3 46.283	0 15.23	31.864
	A. 28 .	4.4	13.2	22.4	0 19 13.33	5 44.532	+0 53.66	— 60.198
Nov. 5	49 * 11 . .	32.6	41.3	50.6	0 40 41.50	3 34.468	—0 19.27	+ 1.397
	50 * 11 . .	35.3	44.5	53.6	40 44.47	3 36.310	0 16.30	— 0.445
F.	A. 26 .	50.9	0.6	9.8	41 0.77	3 35.865		
	49 * 11 . .	0.1	9.1	18.2	45 9.13	3 34.795	0 19.17	+ 1.247
	50 * 11 . .	3.1	11.9	20.9	45 11.97	3 36.485	—0 16.33	— 0.443
	A. 26 .	19.5	28.1	37.3	0 45 28.30	3 36.042		
Nov. 5	51 9.5 . .	26.2	35.3	44.2	0 50 35.23	4 38.600	—1 2.24	+ 2.531
F.	A. 26 .	28.5	37.4	46.5	0 51 37.47	4 41.131		
Nov. 14	*d g* Celæno .	28.6	37.7	46.9	1 18 37.73	4 44.312		
	52 * 11 . .	17.8	27.1	36.1	19 27.00	3 45.880	+0 49.27	+ 14.645
F.	20 *c* Maia . .	29.5	38.5	47.6	19 38.53	3 38.339	1 0.80	19.050
	d g Celæno .	28.9	38.0	47.1	22 38.00	4 44.319		
	52 * 11 . .	18.2	27.3	36.2	23 27.23	3 35.902	0 49.23	14.660
	20 *c* Maia . .	29.8	38.8	48 0	23 38.87	3 38.585	1 0.87	18.811
	d g Celæno .	33.6	43.7	51.8	25 43.03	4 44.559		
	52 * 11 . .	23.4	32.0	40.9	26 32.10	3 45.920	0 49.07	14.438
	20 *c* Maia . .	34.5	43.6	52.6	1 26 43.57	3 38.396	1 0.54	19.240
Nov. 14	16 *g* Celæno .	46.2	55.2	4.6	1 31 55.33	4 44.485		
	52 * 11 . .	35.5	44.7	53.7	32 44.63	3 46.222	0 49.30	14.814
F.	20 *c* Maia . .	47.3	56.3	5.2	32 56.27	3 38.420	1 0.94	19.142
	16 *g* Celæno .	8.3	17.5	26.6	35 17.47	4 44.626		
	52 * 11 . .	57.8	6.7	15.9	36 6.80	3 46.312	0 49.33	14.763
	20 *c* Maia . .	9.3	18.4	27.6	1 36 18.43	3 38.640	+1 0.96	+ 19.063
Nov. 14	16 *g* Celæno .	10.8	19.6	28.6	1 55 19.67	4 32.638		
	19 *e* Taygeta	34.3	43.1	52.1	55 43.17	1 32.641	+0 23.50	+ 41.990
F.	53 11 * . .	56.1	5.2	14.3	1 56 5.20	1 34.361	+0 45.53	+ 41.270

RESULTS.

m. s.
Corr. Chron. + 1 32.24

	a h. m. s.	*δ* ° ′ ″
A. 23	3 39 29.10	+23 15 25.14
A. 26	3 39 44.43	+23 7 19.22

	Δ *a* m. s.	Δ *ρ* s.	Δ *δ* ′ ″	Δ *ρ* ″
A. 25—A. 23,	+0 09.67	.00	— 4 7.27	—.09
A. 26—A. 23,	+0 15.33	.00	— 8 5.92	—.18
A. 28—A. 23,	+0 53.67	.00	—15 20.72	—.35
A. 49—A. 26,	—0 19.22		+ 0 20.27	
A. 50—A. 26,	—0 16.31		— 0 6.81	
A. 51—A. 26,	—1 2.24		+ 0 38.82	

(Continued.)

PLEIADES.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 14	16 *g* Celæno	51.2	0.4	9.3	1 59 0.30	4 32.942		
	19 *e* Taygeta	14.5	23.6	32.8	59 23.63	1 33.692	+0 23.33	+ 42.243
	53 11 *	36.6	45.5	54.5	1 59 45.53	1 34.349	0 45.23	41.586
F.								
	16 *g* Celæno	50.5	59.7	8.6	2 1 59.60	4 32.800		
	19 *e* Taygeta	14.1	23.2	31.9	2 23.07	1 33.730	0 23.47	42.063
	53 11 *	. .	45.2	54.1	2 2 45.17	1 34.402	+0 45.57	+ 41.391
Nov. 30	A. 54, *10.5	29.5	. .	. .				
		33.7	42.4	51.8	0 7 42.67	2 32.091	−0 19.57	+ 40.104
	η Tauri	48.9	. .	15.5				
		53.4	2.2	11.2	8 2.24	5 29.235		
F.	A. 55, *10	. .	. .	53.1				
		30.8	39.9	49.0	8 39.86	4 37.339	+0 37.62	8.904
	A. 54, *10.5	10.2	. .	. .				
		14.4	23.3	32.5	21 23.40	2 31.998	−0 19.60	40.140
	η Tauri	29.9	. .	56.2				
		34.1	42.9	51.9	21 43.00	5 29.268		
	A. 55, *10	7.6	. .	34.3				
		11.9	20.7	30.0	22 20.90	4 37.442	+0 37.90	8.834
	A. 54, *10.5	20.3	. .	46.5				
		24.3	33.4	42.6	26 33.42	2 32.440	−0 19.66	40.272
	η Tauri	39.8	. .	6.3				
		44.2	52.9	2.2	26 53.08	5 29.842		
	A. 55, *10	17.6	. .	44.2				
		21.9	30.8	39.9	27 30.88	4 37.581	+0 37.80	9.269
	A. 54, *10.5	45.7	. .	. .				
		50.2	59.1	8.2	45 59.08	2 32.560	−0 19.48	40.260
	η Tauri	5.5	. .	31.7				
		9.6	18.4	27.6	46 18.56	5 29.950		
	A. 55, *10	43.2	. .	9.6				
		47.6	56.5	5.4	0 46 56.46	4 37.929	+0 37.90	+ 9.029
Nov. 30	η Tauri	49.4	58.4	7.2	0 56.58.33	1 30.959		
	26 *s*	17.6	26.4	35.6	58 26.53	5 28.198	+1 28.20	− 57.240
	A. 30	33.1	41.8	. .	0 58 41.98	4 38.400	1 43.65	50.434
F.								
	η Tauri	42.3	51.4	0.5	1 0 51.40	1 31.075		
	26 *s*	10.6	19.6	28.7	2 19.63	5 28.307	1 28.23	57.233
	A. 30	26.2	35.2	44.2	2 35.20	4 38.369	1 43.80	50.287
	η Tauri	27.9	36.9	46.2	4 37.00	1 31.151		
	26 *s*	56.2	5.2	14.4	5 5.27	5 28.353	1 28.27	57.203
	A. 30	11.6	20.6	29.6	5 20.60	4 38.569	1 43.60	50.411
	η Tauri	33.2	42.3	51.3	9 42.27	1 31.110		
	26 *s*	1.6	10.6	19.5	11 10.57	5 28.510	1 28.30	57.401
	A. 30	. .	25.6	34.9	11 25.77	4 38.612	1 43.50	50.495
	η Tauri	40.4	49.4	58.7	14 49.50	1 31.195		
	26 *s*	8.6	17.7	26.7	16 17.67	5 28.478	1 28.17	57.284
	A. 30	24.2	32.9	41.9	16 33.00	4 38.765	1 43.50	50.563
	η Tauri	52.8	1.9	11.1	19 1.93	1 31.509		
	26 *s*	21.3	30.2	39.4	20 30.30	5 28.658	1 28.37	57.150
	A. 30	36.7	45.6	54.6	1 20 45.63	4 38.790	+1 43.70	− 50.274
Nov. 30	27 *f* Atlas	21.3	30.3	39.3	1 23 30.30	1 42.850		
	A. 38	10.3	19.2	28.4	24 19.30	4 47.190	+0 49.00	− 47.333
F.								
	27 *f* Atlas	15.9	24.6	33.9	26 24.80	1 42.709		
	A. 38	4.7	13.7	22.7	27 13.70	4 47.289	0 48.90	47.573
	27 *f* Atlas	22.8	31.4	40.7	30 31.63	1 42.750		
	A. 38	11.5	20.3	29.3	1 31 20.37	4 47.489	+0 48.74	− 47.732

RESULTS.

m. s.
Corr. Chron. + 1 56.50

	α h. m. s.	δ ° ′ ″
16 *g* Celæno	3 36 48.83	+23 51 43.81

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
(* 52) —16 *g* Celæno,	+0 49.24	.00	+ 3 44.90	+.07
20 *c* Maia —16 *g* Celæno,	+1 00.82	.00	+ 4 52.34	+.09
19 *e* Taygeta—16 *g* Celæno,	+0 23.43	.00	+10 45.67	+.20
53 —16 *g* Celæno,	+0 45.43	.00	+10 35.32	+.20

m. s.
Corr. Chron. + 2 42.60

	α h. m. s.	δ ° ′ ″
η Tauri	3 39 29.74	+23 41 7.68

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
(* 54)—η Tauri,	−0 19.56	.00	+10 16.47	+.21
55 —η Tauri,	+0 37.78	.00	+ 2 18.17	+.05

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
26 *s* —η Tauri,	+1 28.26	.00	−14 38.13	−.28
A. 30—η Tauri,	+1 43.62	.00	−12 53.19	−.25

	α h. m. s.	δ ° ′ ″
27 *f* Atlas	3 41 10.31	+23 38 16.91

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
A. 38—27 *f* Atlas,	+0 48.88	.00	−12 9.24	−.23

PLEIADES.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Dec. 7	27 *f* Atlas	4.2	13.6	22.7	7 42 13.50	1 32.732			Corr. Chron. + 2 53.07
	A. 38	53.7	. .	12.1	43 2.90	4 37.392	+0 49.40	— 47.653	α δ
F.									h. m. s. ° ′ ″
	27 *f* Atlas	41.2	50.1	59.6	44 50.30	1 32.808			27 *f* Atlas . . . . . 3 41 10.34 +22 38 17.08
	A. 38	30.1	39.1	48.7	45 39.30	4 37.406	0 49.00	47.591	
									Δ α Δ ρ Δ δ Δ ρ
	27 *f* Atlas	18.1	27.0	36.0	49 27.03	1 32.960			m. s. s. ′ ″ ″
	A. 38	6.6	15.6	. .	50 15.58	4 37.627	0 48.55	47.660	A. 38—27 *f* Atlas, +0 49.10 .00 —12 11.02 +.24
	27 *f* Atlas	54.7	3.6	13.0	51 3.77	1 33.059			
	A. 38	43.6	52.5	2.2	51 52.77	4 37.735	0 49.00	47.669	
	27 *f* Atlas	22.2	31.3	40.8	55 31.43	1 33.112			
	A. 38	10.9	20.2	29.7	56 20.27	4 37.800	0 48.84	47.681	
	27 *f* Atlas	22.3	31.4	40.8	58 31.50	1 33.090			
	A. 38	11.3	20.4	30.4	7 59 20.70	4 37.802	0 49.20	47.705	
	27 *f* Atlas	37.1	41.3	55.5	8 1 41.30	1 33.130			
	A. 38	. .	30.3	45.0	2 30.55	4 37.842	0 49.25	47.705	
	27 *f* Atlas	30.3	39.1	48.5	4 39.30	1 33.360			
	A. 38	. .	28.0	37.0	5 28.00	4 38.085	0 48.70	47.718	
	27 *f* Atlas	11.0	20.3	29.1	9 20.13	1 33.400			
	A. 38	59.9	9.0	.	10 8.93	4 38.028	0 48.80	47.621	
	27 *f* Atlas	50.0	59.0	8.1	11 59.10	1 33.389			
	A. 38	. .	48.1	57.0	8 12 48.10	4 38.020	+0 49.00	— 47.624	
									α δ
Dec. 7	*56 (* 11)	. .	. .	. .	. .	2 39.542	. . .	+ 24.407	h. m. s. ° ′ ″
	A. 38	. .	. .	. .	. .	4 38.087			A. 38, ... 3 41 59.4 +23 26 6.06
F.									Δ α Δ ρ Δ δ Δ ρ
	56 (* 11)	. .	. .	. .	. .	2 39.700	. . .	24.337	m. s. s. ′ ″ ″
	A. 38	. .	. .	. .	. .	4 38.175			A. 56—A. 38, —0 1.60 .00 + 6 11.17 +.11
	56 (* 11)	. .	. .	. .	. .	2 39.712	. . .	24.460	
	A. 38	. .	. .	. .	. .	4 38.310			
	56 (* 11)	. .	. .	. .	. .	2 39.755	. . .	24.457	
	A. 38	. .	. .	. .	. .	4 38.350			
	56 (* 11)	. .	. .	. .	. .	2 39.730	—0 1.60	+ 24.341	
	A. 38	. .	. .	. .	. .	4 38.209			
									m. s.
Dec. 12	16 *g* Celæno	28.7	37.6	46.6	1 11 37.63	2 54.613			Corr. Chron. + 3 12.38
	(* 57)	47.4	55.6	4.9	11 55.96	3 47.765	+0 18.33	— 5.937	α δ
F.	A. 10,7 *s*	7.2	16.3	25.3	13 16.27	3 48.978	1 38.64	7.150	h. m. s. ° ′ ″
	16 *g* Celæno	39.3	48.3	57.3	18 48.30	2 54.760			16 *g* Celæno . . . . . 3 36 48.76 +23 51 44.24
	(* 57)	58.0	6.8	16.1	19 6.97	3 47.900	0 18.67	5.925	
	A 10, (* 7.5)	18.3	27.3	36.3	20 27.30	3 49.060	1 39.00	7.085	Δ α Δ ρ Δ δ Δ ρ
									m. s. s. ′ ″ ″
	16 *g* Celæno	47.6	56.6	5.6	23 56.60	2 55.035			(* 57)—16 *g* Celæno, +0 18.46 .00 —1 32.31 —.03
	(* 57)	6.1	15.2	24.2	24 15.17	3 48.342	0 18.57	6.092	A. 10—16 *g* Celæno, —1 38.87 .00 —1 48.82 —.03
	A. 10, (* 7.5)	26.6	35.6	44.5	25 35.57	3 49.202	1 38.97	6.952	(* 58)—16 *g* Celæno, +0 56.26 .00 —4 4.99 —.09
									(* 59)—16 *g* Celæno, +1 55.33 .00 +1 32.87 —.03
	16 *g* Celæno	4.9	13.9	22.8	29 13.87	2 55.069			(* 60)—16 *g* Celæno, —0 23.01 .00 +6 19.22 +.11
	(* 57)	23.3	32.3	41.3	29 32.30	3 48.259	0 18.43	5.975	(* 61)—16 *g* Celæno, —1 5.20 .00 —4 59.86 —.09
	(* 58)	1.2	10.2	19.2	30 10.20	4 45.098	0 56.33	15.891	
	A. 10	43.7	52.8	1.9	30 52.80	3 49.535	1 38.93	7.251	
	16 *g* Celæno	40.5	49.5	58.6	35 49.53	2 55.272			
	(* 57)	59.0	8.2	16.9	36 8.03	3 48.565	0 18.50	6.078	
	(* 58)	36.9	46.0	54.9	36 45.93	4 45.367	0 56.40	15.957	
	A. 10	19.5	28.4	37.5	37 28.47	3 49.450	1 38.94	6.963	
	16 *g* Celæno	34.3	43.1	52.1	41 43.17	2 55.340			
	(* 57)	52.5	1.5	10.3	42 1.43	3 48.662	0 18.26	6.107	
		30.2	39.3	48.2	42 39.23	4 45.553	0 56.06	16.075	
		13.0	21.8	30.9	43 21.90	3 49.723	1 38.73	— 7.168	
	(* 59)	. .	38.5	. .	1 43 38.50	2 49.285	+1 55.33	+ 6.055	

(Continued.)

*56 precedes A. 38 1.6 seconds.

PLEIADES.

DATE.	OBJECTS	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		$\Delta\alpha$	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Dec. 12	60 (* 9) . .	22.4	31.3	40.5	1 47 31.40	1 48.320	—0 23.00	+ 24.604	
	Celæno . .	45.5	54.2	3.5	47 54.40	3 43.008			
F.									
	61 (* 8.5) . .	36.2	45.4	54.4	50 45.33	2 36.335	1 5.20	19.551	
	60 (* 9.0) . .	18.4	27.6	36.5	51 27.50	1 48.171	—0 23.03	+ 24.846	
	Celæno . .	41.3	50.6	59.7	1 51 50.53	3 43.101			

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 18	Star C. . . .	28.6	37.4	46.5	5 5 37.50	4 45.113		
		27.0	36.0	44.6	7 35.87	3 42.140	+1 58.37	+ 2.973
		2.4	11.2	20.0	8 11.20	4 37.373	2 33.70	20.817
H.								
	Star C. . . .	24.7	33.2	42.1	10 33.33	4 45.147		
		22.7	31.4	40.3	12 31.47	4 42.320	1 58.14	2.827
		58.0	7.0	15.6	13 6.87	3 37.549	2 33.54	20.675
		56.9	5.5	14.4	14 5.60	4 44.805	3 32.27	0.342
		44.6	53.3	2.0	14 53.30	2 34.731	4 19.97	36.278
	Star C. . . .	35.0	43.9	52.3	16 43.73	4 45.528		
		33.0	42.0	51.0	18 42.00	4 42.448	1 58.27	3.080
		8.3	17.2	26.1	19 17.20	3 37.598	2 33.47	21.007
		. .	16.0	24.9	20 15.97	4 44.787	3 32.24	0.741
		55.0	4.0	12.7	21 3.90	2 34.760	4 20.17	+ 36.630
	Star C. . . .	57.4	6.1	15.0	23 6.17	4 45.807		
		50.4	59.0	8.1	25 59.17	5 36.256	2 53.00	— 7.457
		17.4	26.1	35.0	5 27 26.17	2 35.164	+4 20.00	+ 36.505
Mar. 8	Star C. . . .	30.0	38.8	47.3	8 57 38.70	5 33.603		
		28.2	37.0	45.8	8 59 37.03	4 47.784	+1 58.30	+ 2.827
		23.2	31.9	40.4	9 0 31.83	5 41.026	2 53.13	— 7.423
		50.1	58.8	7.7	1 58.87	2 39.892	4 20.17	+ 36.581
H.								
	Star C. . . .	42.0	50.8	59.6	3 50.80	5 33.724		
		40.3	49.0	57.9	5 49.07	4 47.749	1 58.27	+ 2.983
		35.0	43.9	52.5	6 43.80	5 40.992	2 53.00	— 7.268
		2.2	11.0	19.9	8 11.03	2 40.073	4 20.23	+ 36.521
	Star C. . . .	32.9	41.7	50.5	10 41.70	5 33.916		
		31.1	40.0	48.7	12 39.93	4 47.861	1 58.23	+ 3.063
		26.0	34.7	43.6	13 34.77	5 41.318	2 53.07	— 7.402
		53.1	1.9	10.7	15 1.90	2 40.265	+4 20.20	+ 36.521
		34.7	43.3	52.2	30 43.40	2 38.298	—2 21.97	15.357
	Star B. . . .	56.6	5.4	14.1	33 5.37	3 40.870		
		6.9	15.5	24.4	35 15.60	3 34.266	+2 10.23	6.604
		12.6	21.3	30.2	36 21.37	2 37.144	3 16.00	+ 16.511
		23.3	32.0	41.0	37 32.10	4 33.494	+4 26.73	— 5.701
		43.5	52.2	1.0	39 52.23	2 38.388	—2 21.87	+ 15.372
	Star B. . . .	5.3	14.1	22.9	42 14.10	3 40.975		
		11.9	20.7	29.7	43 20.77	3 44.423	+1 6.67	— 3.448
		15.7	24.4	33.2	44 24.43	3 34.396	2 10.33	+ 6.579
		21.3	30.0	38.9	45 30.07	2 37.111	3 15.97	+ 16.649
		32.1	41.0	49.8	46 40.97	4 33.444	+4 26.87	— 5.546
		2.8	11.6	20.3	49 11.57	2 38.473	—2 21.80	+ 15.399
	Star B. . . .	24.7	33.3	42.1	51 33.37	3 41.087		
		31.0	39.9	48.7	52 39.87	3 44.666	+1 6.50	— 3.579
		35.0	43.6	52.4	53 43.67	3 34.407	2 10.30	+ 6.680
		40.4	49.3	58.1	54 49.27	2 37.275	3 15.90	+ 16.597
		51.6	0.2	9.0	9 56 0.27	4 33.574	+4 26.90	— 5.564
		9.9	18.7	27.6	10 0 18.73	2 45.714	—1 29.50	+ 12.282
	Star D. . .	39.6	48.2	56.9	1 48.23	3 45.211		
		55.8	4.4	13.1	3 4.43	3 46.032	+1 16.20	— 0.821
		19.0	27.5	36.3	5 27.60	5 35.844	+3 39.37	— 20.718
		49.9	58.6	7.4	7 58.63	2 37.737	—3 21.87	+ 20.258
		42.1	51.0	59.9	9 51.00	2 45.674	—1 29.50	+ 12.321
	Star D. . .	11.8	20.4	29.3	11 20.50	3 45.210		
		28.0	36.8	45.5	12 36.77	3 46.072	+1 16.27	— 0.862
		. .	49.9	58.6	13 49.87	4 34.065	+2 29.37	— 1.932
		14.6	23.3	32.0	17 23.30	2 37.946	—3 21.77	+ 20.208
		6.8	15.7	24.4	19 15.63	2 45.822	—1 29.44	+ 12.332
	Star D. . .	36.2	45.0	54.0	20 45.07	3 45.369		
		52.6	1.3	10.0	22 1.30	3 46.206	+1 16.23	— 0.837
		5.6	14.2	23.0	23 14.27	4 34.110	2 29.20	1.818
		15.6	24.3	33.2	10 24 24.37	5 35.804	+3 39.30	— 20.520

RESULTS.

	α h. m. s.	δ ° ′ ″
Star C.	8 30 1.73	+19 44 6.29

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
C. 1,	+1 58.26	.00	+ 0 45.40	+ .02
C. 2,	+2 33.58	.00	+ 5 19.52	+ .11
C. 3,	+2 53.00	.00	— 1 54.37	— .04
C. 4,	+3 32.25	.00	+ 0 8.31	.00
C. 5,	+4 20.05	.00	+ 9 19.38	+ .19

	α h. m. s.	δ ° ′ ″
Star C.	8 30 1.60	+19 44 6.90

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
C. 1,	+1 58.27	.00	+ 0 45.37	+ .02
C. 2,	+2 53.07	.00	— 1 52.95	— .04
C. 3,	+4 20.20	.00	+ 9 20.44	+ .20

	α h. m. s.	δ ° ′ ″
Star B.	8 29 54.91	+19 59 12.60

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
B. 1,	—2 21.88	.00	+ 3 55.83	+ .08
B. 2,	+1 6.58	.00	— 0 53.88	— .02
B. 4,	+2 10.29	.00	+ 1 41.55	+ .04
B. 5,	+3 15.96	.00	+ 4 14.39	+ .08
B. 6,	+4 26.83	.00	— 1 25.95	— .03

	α h. m. s.	δ ° ′ ″
Star D.	8 31 19.89	+20 8 53.53

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
D. 1,	—3 21.82	.00	+ 5 10.32	+ .09
D. 2,	—1 29.48	.00	+ 3 8.84	+ .06
D. 3,	+1 16.23	.00	— 0 12.88	.00
D. 4,	+2 29.28	.00	— 0 28.76	— .01
D. 5,	+3 39.33	.00	— 5 16.24	— .10

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 8		40.4	49.1	58.0	10 29 49.17	5 33.549	−3 58.16	− 4.162
		32.8	41.2	50.1	31 41.37	5 41.807	−2 5.96	− 12.420
	Star F.	38.5	47.3	56.2	33 47.33	4 46.395		
		9.7	18.6	27.3	35 18.53	2 37.413	+1 31.20	+ 34.844
H.								
		48.6	57.6	6.2	37 57.47	5 33.388	−3 58.30	− 4.026
		41.1	49.8	58.4	39 49.77	5 41.514	2 6.00	− 12.152
		38.0	46.8	55.7	40 46.83	3 40.722	−1 8.94	+ 18.725
	Star F.	47.1	55.6	4.6	41 55.77	4 46.370		
		47.9	56.6	5.3	42 56.60	5 42.676	+1 0.83	− 13.314
		50.9	59.6	8.5	46 59.67	2 41.960	+5 3.90	+ 30.272
		10.6	19.5	28.3	49 19.47	5 33.438	−3 58.43	− 4.076
		3.2	11.7	20.6	51 11.83	5 41.526	2 6.07	− 12.164
		0.1	9.0	17.8	52 8.97	3 40.704	−1 8.93	+ 18.743
	Star F.	9.0	17.9	26.8	10 53 17.90	4 46.370		
Mar. 12		47.7	56.4	5.3	6 47 56.47	3 42.982	−2 32.90	− 0.162
		17.6	26.4	35.3	49 26.43	3 45.260	−1 2.94	2.440
	Star G.	20.6	29.3	38.2	50 29.37	3 42.820		
		28.3	37.2	46.0	51 37.17	5 32.256	+1 7.80	19.521
H.								
		14.0	22.9	31.8	54 22.90	3 43.055	−2 33.03	0.234
		44.0	52.9	1.7	55 52.87	3 45.370	−1 3.06	2.549
	Star G.	47.1	55.9	4.8	56 55.93	3 42.821		
		54.9	3.7	12.4	58 3.67	5 32.327	+1 7.74	− 19.591
		1.1	10.0	18.8	6 59 9.97	3 34.635	+2 14.04	+ 8.186
		55.1	3.8	12.7	7 1 3.87	3 43.116	−2 33.00	− 0.263
		25.1	34.0	42.9	2 34.00	3 45.489	−1 2.87	2.636
	Star G.	28.1	36.9	45.6	3 36.87	3 42.853		
		36.0	44.6	53.4	4 44.67	5 32.350	+1 7.80	− 19.582
		42.2	51.1	59.6	5 50.97	3 34.714	+2 14.10	+ 8.139
		38.0	46.7	55.6	9 46.77	3 35.686	−1 20.76	27.623
	Star E.	58.8	7.4	16.4	11 7.53	5 33.224		
		8.1	17.0	25.8	12 16.97	2 32.950	+1 9.44	43.144
		9.4	18.0	27.0	13 18.13	4 31.736	2 10.60	18.496
		51.9	0.6	9.7	15 0.73	3 36.530	3 53.20	26.779
		44.5	53.2	2.0	15 53.23	3 32.835	+4 45.70	30.474
		33.1	42.0	50.8	18 41.97	3 35.891	−1 20.76	27.570
	Star E.	53.8	2.8	11.6	20 2.73	5 33.376		
		3.1	12.0	20.9	21 12.00	2 33.220	+1 9.27	43.026
		4.4	13.1	22.1	22 13.20	4 31.890	2 10.47	18.494
		47.0	55.9	4.7	23 55.87	3 36.829	3 53.14	26.632
		39.5	48.2	57.1	24 48.27	3 33.004	+4 45.54	30.457
		46.2	55.0	3.8	26 55.00	3 35.949	−1 20.83	27.640
	Star E.	7.0	15.9	24.6	28 15.83	5 33.504		
		16.2	25.2	34.1	29 25.17	2 33.156	+1 9.34	43.218
		17.8	26.7	35.3	30 26.60	4 32.058	2 10.77	18.454
		0.4	9.1	17.9	32 9.13	3 36.956	3 53.30	26.633
		52.7	1.6	10.1	33 1.47	3 33.231	4 45.64	30.358
	Star C.	30.0	38.9	47.7	38 38.87	5 53.510		
		8.7	17.4	26.3	41 17.47	2 45.662	2 38.60	50.718
		50.1	59.0	7.9	42 59.00	3 47.100	4 20.13	36.495
		49.7	58.5	7.3	43 58.50	3 40.240	5 19.63	43.355
	Star C	44.0	52.6	1.6	45 52.73	5 53.510		
		22.4	31.3	40.1	48 31.27	2 45.751	2 38.54	50.629
		4.0	12.8	21.6	50 12.80	3 47.135	4 20.07	36.460
		3.3	12.1	21.1	51 12.17	3 40.236	5 19.44	43.359
	Star C.	48.9	57.7	6.4	52 57.67	5 53.544		
		27.4	36.1	45.1	55 36.20	2 45.862	2 38.53	50.552
		8.9	17.6	26.4	57 17.63	3 47.160	4 19.96	36.469
		8.3	17.2	26.0	7 58 17.17	3 40.336	+5 19.50	+ 43.293

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star F.	8 31 56.32	+20 15 5.32

	△ α	△ ρ	△ δ	△ ρ
	m. s.	s.	′ ″	″
F. 1,	−3 58.30	.00	− 1 2.70	− .02
F. 2,	−2 6.01	.00	− 3 7.80	− .06
F. 3,	−1 8.94	.00	+ 4 47.26	+ .10
F. 4,	+1 0.83	.00	− 3 24.20	− .07
F. 5,	+1 31.20	.00	+ 8 54.36	+ .17
F. 6,	+5 3.90	.00	+ 7 44.29	+ .15

	α	δ
	h. m. s.	° ′ ″
Star G.	8 32 19.40	+20 28 54.84

	△ α	△ ρ	△ δ	△ ρ
	m. s.	s.	′ ″	″
G. 1,	−2 32.98	.00	− 0 3.37	.00
G. 2,	−1 2.96	.00	− 0 38.99	− .01
G. 3,	+1 7.78	.00	− 5 0.07	− .10
G. 4,	+2 14.07	.00	+ 2 5.18	+ .02

	α	δ
	h. m. s.	° ′ ″
Star E.	8 31 55.25	+20 33 34.86

	△ α	△ ρ	△ δ	△ ρ
	m. s.	s.	′ ″	″
E. 1,	−1 20.78	.00	+ 7 3.48	+ .14
E. 2,	+1 9.35	.00	+11 1.49	+ .22
E. 3,	+2 10.61	.00	+ 4 43.45	+ .09
E. 4,	+3 53.21	.00	+ 6 49.22	+ .13
E. 5,	+4 45.63	.00	+ 7 46.71	+ .15

	α	δ
	h. m. s.	° ′ ″
Star C.	8 30 1.55	+19 44 7.06

	△ α	△ ρ	△ δ	△ ρ
	m. s.	s.	′ ″	″
C. 1,	+2 38.56	.00	+12 56.57	+ .25
C. 2,	+4 20.05	.00	+ 9 19.44	+ .18
C. 3,	+5 19.52	.00	+11 4.66	+ .22

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1864. Mar. 12		49.1	58.0	6.7	8 0 57.93	3 45.430	−2 21.90	+ 15.491
	Star B.	11.0	19.8	28.7	3 19.83	4 47.944		
		17.6	26.2	35.2	4 26.33	5 34.372	+1 6.50	− 3.436
		21.2	30.2	39.0	5 30.13	4 41.418	2 10.30	+ 6.526
		27.1	36.0	44.7	6 35.93	3 44.455	3 16.10	16.566
		15.6	24.2	33.2	8 24.33	3 43.512	+5 4.50	+ 17.509
H.								
		29.0	37.7	46.4	10 37.70	3 45.802	−2 21.88	15.444
		11.6	20.5	29.3	12 20.47	3 41.204	−0 39.11	+ 20.042
		57.1	6.0	14.9	14 6.00	5 34.540	+1 6.42	− 3.379
		1.0	9.7	18.6	15 9.77	4 41.578	2 10.19	+ 6.591
		6.8	15.4	24.3	16 15.50	3 44.684	3 15.92	16.562
		55.1	4.0	13.0	18 4.03	3 43.690	+5 4.45	17.556
		29.2	37.9	46.8	19 37.97	3 46.270	−2 21.86	+ 15.398
	Star B.	51.1	59.8	8.6	21 59.83	4 48.591		
		57.7	6.4	15.2	23 6.43	5 35.024	+1 6.60	− 3.441
		1.5	10.2	19.0	24 10.23	4 42.020	2 10.40	+ 6.571
		7.1	15.8	24.7	25 15.87	3 45.033	3 16.04	16.635
		55.5	4.3	13.1	27 4.30	3 44.050	+5 4.47	17.618
		35.2	44.0	52.9	56 44.03	3 41.597	−1 52.30	+ 7.920
	Star A.	27.6	36.3	45.1	8 58 36.33	4 36.440		
		57.1	5.9	14.8	9 0 5.93	5 31.679	+1 29.60	− 12.247
		14.2	23.0	32.0	1 23.07	2 36.470	2 46.74	+ 25.832
		26.3	35.1	44.0	2 35.13	5 33.536	+3 58.80	− 14.102
		36.7	45.5	54.4	4 45.53	3 41.746	−1 52.37	+ 7.951
	Star A.	29.1	37.9	46.7	6 37.90	4 36.620		
		58.8	7.4	16.2	8 7.47	5 31.846	+1 29.57	− 12.234
		15.8	24.6	33.7	9 24.70	2 36.657	2 46.80	+ 25.825
		27.9	36.6	45.5	10 36.67	5 33.754	+3 58.77	− 14.142
		32.2	41.0	50.0	13 41.07	3 41.892	−1 52.30	+ 7.913
	Star A.	24.6	33.3	42.2	15 33.37	4 36.728		
		54.1	3.0	11.9	17 3.00	5 31.962	+1 29.63	− 12.242
		11.2	20.1	28.9	18 20.07	2 36.794	2 46.70	+ 25.796
		23.4	32.2	41.0	19 32.20	5 33.855	+3 58.83	− 14.135
		3.4	12.2	21.1	23 12.23	2 35.216	−2 33.04	0.148
		7.8	16.5	25.3	24 16.53	2 40.256	−1 28.74	5.188
	Star G.	36.6	45.1	54.1	25 45.27	2 35.068		
		27.3	36.1	45.0	26 36.13	3 39.023	+0 50.86	16.740
		20.9	29.7	33.5	27 29.70	4 39.704	+1 44.43	30.498
		3.1	12.0	20.9	30 12.00	2 35.333	−2 33.07	0.132
		7.5	16.2	25.1	31 16.27	2 40.314	−1 28.80	5.113
	Star G.	36.2	45.0	54.0	32 45.07	2 35.201		
		27.1	36.0	44.9	33 36.00	3 39.038	+0 50.93	16.622
		20.7	29.5	38.3	34 29.50	4 39.791	+1 44.43	30.452
		53.3	2.1	11.0	36 2.13	2 35.340	−2 32.97	0.174
		57.8	6.4	15.2	37 6.47	2 40.341	−1 28.63	5.175
	Star G.	26.2	35.1	44.0	38 35.10	2 35.166		
		17.2	26.1	35.0	39 26.10	3 39.134	+0 51.00	16.753
		10.8	19.5	28.4	40 19.57	4 39.828	+1 44.47	− 30.524
		42.6	51.4	0.3	44 51.43	2 45.223	−3 23.47	+ 14.593
		57.0	5.8	14.5	46 5.77	5 35.284	2 9.13	− 18.338
		45.3	54.1	3.0	46 54.13	2 32.194	1 20.77	+ 27.622
	Star E.	6.0	14.9	23.8	48 14.90	3 47.031		
		12.1	21.0	29.8	50 20.97	2 45.275	3 23.30	+ 14.550
		26.3	35.1	44.0	51 35.13	5 35.324	2 9.14	− 18.369
		14.7	23.4	32.2	52 23.43	2 32.113	1 20.84	+ 27.712
	Star E.	35.5	44.2	53.1	53 44.27	3 47.040		
		36.1	45.0	54.0	55 45.03	2 45.355	3 23.44	+ 14.534
		50.5	59.2	8.3	56 59.33	5 35.341	2 9.14	− 18.322
		39.0	47.7	56.7	57 47.80	2 32.159	−1 20.67	+ 27.730
	Star E.	59.6	8.5	17.3	9 59 8.47	3 47.104		

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star B.	8 29 54.87	+19 59 12.35

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
B. 1,	−2 21.88	.00	+ 3 56.87	+ .07
B. 2,	−0 39.11	.00	+ 5 7.39	+ .10
B. 3,	+1 6.51	.00	− 0 52.44	− .02
B. 4,	+2 10.30	.00	+ 1 40.86	+ .04
B. 5,	+3 16.02	.00	+ 4 14.42	+ .07
B. 6,	+5 4.47	.00	+ 4 29.34	+ .08

	α	δ
	h. m. s.	° ′ ″
Star A.	8 29 50.48	+20 12 6.03

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
A. 1,	−1 52.32	.00	+ 2 1.59	+ .04
A. 2,	+1 29.60	.00	− 3 8.00	− .06
A. 3,	+2 46.75	.00	+ 6 35.90	+ .13
A. 4,	+3 58.80	.00	− 3 36.66	− .07

	α	δ
	h. m. s.	° ′ ″
Star G.	8 32 19.40	+20 28 54.94

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
G. 5,	−2 33.03	.00	− 0 2.32	.00
G. 6,	−1 28.72	.00	− 1 19.14	− .02
G. 7,	+0 50.93	.00	− 4 16.21	− .08
G. 8,	+1 44.44	.00	− 7 47.65	− .15

	α	δ
	h. m. s.	° ′ ″
Star E.	8 31 55.25	+20 33 35.03

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
E. 6,	−3 23.40	.00	+ 3 43.30	+ .07
E. 7,	−2 9.14	.00	− 4 41.33	− .09
E. 8,	−1 20.76	.00	+ 7 4.66	+ .14

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 12		53.9	2.8	11.6	10 5 2.77	2 38.352	−2 6.03	+ 30.460
	Star N. . . .	0.0	8.8	17.6	7 8.80	4 42.950		
		11.0	19.6	28.7	8 19.77	5 34.164	+1 10.97	− 8.222
		30.1	38.9	47.8	9 38.93	3 40.471	2 30.13	+ 15.556
		31.1	40.0	49.0	10 40.03	5 35.000	+3 31.23	− 9.058
H.								
		43.1	52.0	1.0	12 52.03	2 38.336	−2 5.97	+ 30.480
	Star N. . . .	49.1	58.0	6.9	14 58.00	4 42.954		
		0.0	8.9	18.0	16 8.97	5 34.230	+1 10.97	− 8.284
		19.5	28.2	37.0	17 28.23	3 40.464	2 30.23	+ 15.567
		20.6	29.2	38.2	18 29.33	5 34.975	+3 31.33	− 9.029
		54.3	3.2	12.1	20 3.20	2 38.467	−2 6.07	+ 30.414
	Star N. . . .	0.6	9.2	18.0	22 9.27	4 43.019		
		11.3	20.2	29.1	23 20.20	5 34.276	+1 10.93	− 8.265
		30.7	39.3	48.2	24 39.40	3 40.507	2 30.13	+ 15.589
		31.7	40.5	49.4	10 25 40.53	5 35.062	+3 31.26	− 9.051
Mar. 23	B. A. C. 2899 .	22.4	31.3	40.2	9 55 31.30	3 41.305		
	(* 1) . . .	31.2	39.7	48.4	56 39.77	4 43.668	+1 8.47	− 15.440
	(* 2) . . .	. .	29.4	38.2	57 29.35	3 38.271	1 58.05	+ 3.034
	(* 3) . . .	. .	24.3	33.2	58 24.30	4 35.616	2 53.00	− 7.388
	(* 4) . . .	13.3	21.7	30.5	9 59 21.83	5 38.139	3 50.53	− 27.919
F.								
	B. A. C. 2899 .	45.6	54.3	3.4	10 3 54.43	3 41.301		
	(* 2) . . .	43.7	52.5	1.5	5 52.57	3 38.295	1 58.14	+ 3.006
	(* 3) . . .	39.0	47.5	56.3	6 47.60	4 35.783	2 53.17	− 7.559
	B. A. C. 2899 .	0.9	9.6	18.5	10 9.67	3 41.312		
	(* 2) . . .	58.9	7.9	17.0	12 7.93	3 38.283	1 58.26	+ 3.029
	(* 3) . . .	54.2	2.8	11.8	13 2.93	4 35.830	2 53.26	− 7.595
	(* 5) . . .	20.6	29.5	38.5	14 29.53	1 34.799	4 19.86	+ 36.429
	B. A. C. 2899 .	50.4	59.2	8.3	16 59.30	3 41.390		
	(* 2) . . .	48.6	57.4	6.3	18 57.43	3 38.442	1 58.13	+ 2.948
	(* 3) . . .	43.7	52.3	1.2	19 52.40	4 35.750	2 53.10	− 7.437
	(* 5) . . .	10.5	19.2	28.2	21 19.30	1 34.845	4 20.00	+ 36.461
	B. A. C. 2899 .	29.6	38.2	47.3	23 38.37	3 41.336		
	(* 2) . . .	27.9	36.5	45.5	25 36.63	3 38.260	1 58.26	+ 3.076
	(* 3) . . .	22.9	31.5	40.3	26 31.57	4 35.759	2 53.20	− 7.500
	(* 5) . . .	49.3	58.2	7.3	27 58.27	1 34.925	4 19.90	+ 36.327
	B. A. C. 2899 .	40.3	49.2	58.0	30 49.17	3 41.370		
	(* 2) . . .	38.6	47.4	56.2	32 47.40	3 38.461	1 58.23	+ 2.909
	(* 3) . . .	33.7	42.2	51.0	33 42.30	4 35.820	2 53.13	− 7.527
	(* 5) . . .	0.4	9.0	18.2	35 9.20	1 34.961	4 20.03	+ 36.325
	B. A. C. 2899 .	40.0	48.6	57.4	36 48.67	3 41.371		
	(* 2) . . .	38.1	46.7	55.7	38 46.83	3 38.305	1 58.16	+ 3.066
	(* 3) . . .	33.0	41.7	50.5	39 41.73	4 35.822	2 53.06	− 7.528
	(* 5) . . .	59.6	8.4	17.3	41 8.43	1 34.870	4 19.76	+ 36.417
	B. A. C. 2899 .	0.0	8.8	17.5	43 8.77	3 41.451		
	(* 2) . . .	58.2	6.9	15.9	45 7.00	3 38.370	1 58.23	+ 3.081
	(* 3) . . .	53.2	2.0	10.7	46 1.97	4 35.989	2 53.20	− 7.615
	(* 5) . . .	19.9	28.7	37.6	47 28.73	1 34.915	4 19.96	+ 36.452
	B. A. C. 2899 .	7.9	16.4	25.2	55 16.50	3 41.550		
	(* 2) . . .	6.1	14.8	23.4	57 14.77	3 38.425	1 58.27	+ 3.125
	(* 3) . . .	0.8	9.5	18.5	58 9.60	4 35.983	2 53.10	− 7.510
	(* 5) . . .	27.5	36.4	45.4	10 59 36.43	1 35.035	4 19.93	+ 36.431
	B. A. C. 2899 .	44.5	53.2	2.2	11 0 53.30	3 41.508		
	(* 2) . . .	42.8	51.4	0.3	2 51.50	3 38.538	1 58.20	+ 2.970
	(* 3) . . .	37.6	46.3	55.3	3 46.40	4 35.803	2 53.10	− 7.372
	(* 5) . . .	4.6	13.2	22.2	5 13.33	1 35.212	4 20.03	+ 36.212
	B. A. C. 2899 .	49.9	58.8	7.2	6 58.63	3 41.672		
	(* 2) . . .	48.3	56.7	5.6	8 56.87	3 38.510	1 58.24	+ 3.162
	(* 3) . . .	43.1	51.7	0.5	9 51.77	4 35.951	2 53.14	− 7.356
	(* 5) . . .	9.8	18.5	27.5	11 11 18.60	1 35.185	+4 19.97	+ 36.403

RESULTS.

	α h. m. s.	δ ° ′ ″
Star N.	8 30 34.52	+20 40 30.82

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
N. 1,	−2 6.02	.00	+ 7 47.03	+ .15
N. 2,	+1 10.96	.00	− 2 6.64	− .04
N. 3,	+2 30.16	.00	+ 3 58.82	+ .08
N. 4,	+3 31.27	.00	− 2 18.71	− .04

	α h. m. s.	δ ° ′ ″
B. A. C. 2899	8 30 0.93	+19 39 52.45

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
(* 1)	+1 8.47	.00	− 3 56.81	− .04
(* 2)	+1 58.20	.00	+ 0 46.30	+ .01
(* 3)	+2 53.14	.00	− 1 54.91	− .04
(* 4)	+3 50.53	.00	− 7 8.20	− .14
(* 5)	+4 19.93	.00	+ 9 17.95	+ .18

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 23	B. A. C. 2899 .	35.5	44.1	53.0	11 12 44.20	3 41.445		
	(* 2) - -	33.6	42.3	51.4	14 42.43	3 38.541	+1 58.23	+ 2.904
	(* 3) - -	28.8	37.3	46.0	15 37.37	4 35.880	2 53.17	— 7.512
F.	(* 5) - -	55.4	3.8	12.9	11 17 4.03	1 35.025	+4 19.83	+ 36.336
Mar. 24	Star C. - -	11.1	19.8	28.7	7 26 19.87	4 33.640		
		9.3	18.1	26.9	28 18.10	3 43.632	+1 58.23	+ 3.085
		44.4	53.4	2.3	28 53.37	2 38.652	2 33.50	20.850
H.								
	Star C. - -	26.8	35.6	44.4	32 35.60	4 33.683		
		25.0	33.7	42.6	34 33.77	3 43.698	1 58.17	3.062
		0.3	9.1	18.0	35 9.13	2 38.710	2 33.53	20.835
		26.3	35.1	43.9	36 35.10	3 44.290	3 59.50	2.470
	Star C. - -	5.8	14.6	23.6	38 14.67	4 33.758		
		4.1	12.8	21.6	40 12.83	3 43.785	1 58.16	3.050
		39.4	48.4	57.1	40 48.30	2 38.817	2 33.63	20.803
		5.2	14.2	23.0	42 14.13	3 44.424	3 59.46	2.411
	Star C. - -	0.8	9.5	18.3	44 9.53	4 33.789		
		59.0	7.7	16.4	46 7.70	3 43.805	1 58.17	3.061
		34.3	43.1	51.9	46 43.10	2 38.835	2 33.57	20.816
		0.2	9.1	17.8	48 9.03	3 44.438	3 59.50	2.428
	Star C. - -	13.1	21.8	30.7	51 21.87	5 32.740		
		33.1	42.0	51.0	55 42.03	2 39.230	4 20.16	36.380
	Star C. - -	14.1	23.0	32.0	57 23.03	5 32.767		
		17.6	26.2	35.2	7 59 26.33	1 27.261	2 3.30	65.507
		34.2	43.0	51.8	8 1 43.00	2 39.214	4 19.97	36.423
	Star C. - -	36.8	45.2	54.2	3 45.40	5 32.920		
		40.1	49.0	57.9	5 49.00	1 27.319	2 3.60	65.602
		56.7	5.5	14.3	7 5.50	2 39.287	4 20.10	36.503
	Star C. - -	28.2	37.0	45.7	9 36.97	5 33.019		
		31.8	40.6	49.4	11 40.60	1 27.413	2 3.63	65.607
		48.2	57.1	6.0	13 57.10	2 39.333	+4 20.13	36.556
	Star I - -	9.2	17.9	26.8	20 17.97	1 46.835		
		39.2	48.0	57.0	20 48.07	4 48.694	—0 30.10	44.852
	Star I - -	57.6	6.5	15.3	23 6.47	1 46.803		
		27.8	36.5	45.2	23 36.50	4 48.725	0 30.03	44.915
	Star I - -	26.1	35.0	43.9	25 35.00	1 46.920		
		56.2	5.1	13.8	26 5.03	4 48.682	0 30.03	44.755
	Star I - -	29.2	38.0	46.9	28 38.03	1 46.906		
		59.3	7.9	16.7	29 7.97	4 48.660	—0 29.94	44.747
	Star B. - -	11.7	20.6	29.3	34 20.53	3 43.434		
		21.7	30.7	39.4	36 30.60	3 36.882	+2 10.07	6.552
		58.3	7.2	15.9	37 7.13	3 35.525	2 46.60	+ 7.909
		38.5	47.2	56.0	38 47.23	5 35.889	4 26.70	— 22.540
	Star B. - -	36.3	45.2	54.1	41 45.20	3 43.510		
		47.0	55.8	4.3	43 55.70	3 36.898	2 10.50	+ 6.612
		23.2	32.0	40.8	44 32.00	3 35.573	2 46.80	+ 7.937
		3.3	12.0	21.0	46 12.10	5 35.912	4 26.90	— 22.487
	Star B. - -	43.6	52.3	1.2	47 52.37	3 43.506		
		54.0	2.7	11.4	50 2.70	3 36.853	2 10.33	+ 6.653
		30.3	39.1	47.9	50 39.10	3 35.562	2 46.73	+ 7.944
		10.6	19.4	28.1	8 52 19.37	5 35.907	+4 27.00	— 22.486
		22.1	31.0	39.9	9 4 31.00	3 41.674	—2 4.17	— 18.249
	Star D. - -	26.4	35.1	44.0	6 35.17	2 36.210		
		42.6	51.4	0.2	7 51.40	2 37.116	+1 16.23	+ 0.906
		25.7	4.2	13.3	9 4.40	2 38.162	2 29.23	+ 1.952
		5.6	14.6	23.3	9 10 14.50	3 44.061	+3 39.33	— 20.636

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star C.	8 30 1.39	+19 44 7.77

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
C. 1,	+1 58.18	.00	+ 0 47.01	+ .02
C. 2,	+2 33.56	.00	+ 5 19.42	+ .10
C. 3,	+3 50.49	.09	+ 0 37.36	+ .01

	α	δ
	h. m. s.	° ′ ″
Star C.	8 30 1.39	+19 44 7.77

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
C. 4,	+2 3.51	.00	+16 45.70	+ .33
C. 5,	+4 20.09	.00	+ 9 19.29	+ .17

	α	δ
	h. m. s.	° ′ ″
Star I.	8 32 34.95	+19 49 27.18

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
I. 1,	—0 30.03	.00	+11 27.37	+ .21

	α	δ
	h. m. s.	° ′ ″
Star B.	8 29 54.69	+19 59 13.45

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
B. 1,	+2 10.30	.00	+ 1 41.32	+ .03
B. 2,	+2 46.71	.00	+ 2 1.63	+ .04
B. 3,	+4 26.87	.00	— 5 45.15	— .11

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 24		29.5	38.2	47.2	9 12 38.30	3 41.745	—2 4.13	— 18.236
	Star D.	33.5	42.6	51.2	14 42.43	2 36.294		
		49.9	58.7	7.5	15 58.70	2 37.168	+1 16.27	+ 0.874
		3.0	11.7	20.6	17 11.77	2 38.226	2 29.34	+ 1.932
		13.0	21.8	30.7	18 21.83	3 44.063	+3 39.40	— 20.554
H.								
		56.7	5.6	14.3	20 5.53	3 42.366	—2 4.24	— 18.188
	Star D.	1.0	9.8	18.5	22 9.77	2 36.963		
		17.1	25.9	34.9	23 25.97	2 37.838	+1 16.20	+ 0.875
		30.2	39.0	47.9	24 39.03	2 38.880	2 29.26	+ 1.917
		40.2	49.0	57.9	25 49.03	3 44.792	3 39.26	— 20.614
	Star A.	32.8	41.5	50.3	36 41.53	2 43.674		
		38.7	47.4	55.3	38 47.47	2 31.688	2 5.94	+ 11.986
		18.6	27.4	36.2	39 27.40	4 30.991	2 45.87	— 13.179
		31.6	40.5	49.2	40 40.43	3 45.128	3 58.90	— 14.239
	Star A.	9.3	18.0	27.1	42 18.13	2 43.615		
		15.2	24.0	32.9	44 24.03	2 31.648	2 5.90	+ 11.967
		55.2	4.0	12.8	45 4.00	4 30.915	2 45.87	— 13.162
		8.2	17.0	25.9	46 17.03	3 45.042	3 58.90	— 14.212
	Star A.	43.0	51.7	0.6	47 51.77	2 43.674		
		48.8	57.6	6.6	49 57.67	2 31.675	2 5.90	+ 11.999
		28.8	37.6	46.3	50 37.57	4 31.010	2 45.80	— 13.198
		41.6	50.6	59.3	9 51 50.50	3 45.121	+3 58.73	14.232
		22.0	31.0	40.0	10 10 31.00	2 32.624	—3 16.63	5.029
		31.2	40.0	49.0	11 40.07	3 38.581	2 7.56	23.771
		12.0	20.9	29.7	12 20.87	2 37.624	1 26.76	10.029
	Star L.	38.8	47.7	56.4	13 47.63	1 44.726		
		6.1	14.9	23.8	16 14.93	2 32.760	3 16.54	5.071
		15.2	24.0	32.9	17 24.03	3 38.637	2 7.44	23.733
		56.0	4.8	13.7	18 4.83	2 37.659	1 26.64	9.970
	Star L.	22.7	31.4	40.3	19 31.47	1 44.820		
		51.1	59.9	8.6	20 59.87	2 32.774	3 16.50	5.079
		0.0	9.0	17.7	22 8.90	3 38.691	2 7.47	23.781
		40.9	49.7	58.4	22 49.67	2 37.707	—1 26.70	— 10.012
	Star L.	7.6	16.3	25.2	24 16.37	1 44.826		
	Star F.	40.2	49.0	57.9	27 49.03	4 44.663		
		54.2	3.2	12.0	29 3.13	2 32.863	+1 14.10	+ 37.662
		47.9	56.5	5.4	29 56.60	3 33.803	2 7.57	23.937
	Star F.	1.9	10.5	19.3	32 10.57	4 45.078		
		16.0	24.8	33.3	33 24.70	2 33.170	1 14.13	37.770
		9.3	18.1	27.0	34 18.13	3 34.284	2 7.56	23.871
	Star F.	48.3	57.1	6.0	35 57.13	4 45.181		
		2.2	11.1	20.0	37 11.10	3 33.278	1 13.97	37.765
		55.8	4.5	13.2	38 4.50	2 34.261	+2 7.37	23.997
		31.9	41.0	49.8	41 40.90	2 37.191	—2 47.23	27.958
		35.0	43.8	52.7	42 43.83	2 34.662	1 44.30	30.487
		26.0	34.8	43.7	43 34.83	3 38.645	0 53.30	13.719
	Star L.	19.2	28.2	37.0	44 28.13	4 39.287		
		33.2	42.0	51.0	45 42.07	2 37.271	2 47.26	27.927
		36.1	45.1	53.9	46 45.03	2 34.770	1 44.30	30.428
		27.1	36.0	44.8	47 35.97	3 38.645	0 53.36	13.768
	Star L.	20.6	29.2	38.2	48 29.33	4 39.336		
		26.9	35.8	44.3	49 35.67	2 37.288	2 47.30	27.942
		29.8	38.7	47.4	50 38.63	2 34.762	1 44.34	30.468
		20.8	29.3	38.4	51 29.50	3 38.764	0 53.47	13.681
	Star L.	. .	23.0	32.0	52 22.97	4 39.368		
		58.5	7.5	16.5	58 7.50	3 35.574	2 2.67	27.607
		59.7	8.7	17.3	10 59 8.57	3 38.086	—1 1.60	+ 25.095
	Star G.	1.3	10.1	19.1	11 0 10.17	5 33.096		
		48.0	56.9	5.6	11 1 56.83	2 38.954	+1 46.66	

RESULTS.

Star D. — α: h. m. s. 8 31 19.68; δ: ° ′ ″ +20 8 54.45

	Δ α m. s.	Δ ρ s.	Δ δ ′	Δ ″	Δ ρ ″
D. 1,	—2 4.18	.00	— 4	39.51	— .05
D. 2,	+1 16.23	.00	+ 0	13.57	.00
D. 3,	+2 29.28	.00	+ 0	29.55	+ .01
D. 4,	+3 39.33	.00	— 5	15.96	— .11

Star A. — α: h. m. s. 8 29 50.32; δ: ° ′ ″ +20 12 6.43

	Δ α m. s.	Δ ρ s.	Δ δ ′	Δ ″	Δ ρ ″
A. 1,	+2 5.91	.00	+ 3	3.79	+ .06
A. 2,	+2 45.85	.00	— 3	22.15	— .07
A. 3,	+3 58.84	.00	— 3	38.22	— .07

Star L. — α: h. m. s. 8 34 3.61; δ: ° ′ ″ +20 21 11.32

	Δ α m. s.	Δ ρ s.	Δ δ ′	Δ ″	Δ ρ ″
L. 1,	—3 16.56	.00	— 1	17.61	— .02
L. 2,	—2 7.49	.00	— 6	4.45	— .13
L. 3,	—1 26.70	.00	— 2	33.43	— .05

Star F. — α: h. m. s. 8 31 56.12; δ: ° ′ ″ +20 15 6.50

	Δ α m. s.	Δ ρ s.	Δ δ ′	Δ ″	Δ ρ ″
F. 1,	+1 14.07	.00	+ 9	38.81	+ .18
F. 2,	+2 7.50	.00	+ 6	7.10	+ .12

Star L. — α: h. m. s. 8 34 3.60; δ: ° ′ ″ +20 21 11.38

	Δ α m. s.	Δ ρ s.	Δ δ ′	Δ ″	Δ ρ ″
L. 1,	—2 47.26	.00	+ 7	8.56	+ .14
L. 3,	—1 44.31	.00	+ 7	47.19	+ .15
L. 4,	—0 53.38	.00	+ 3	30.46	+ .07

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 24		14.6	23.2	32.1	11 4 23.30	3 35.577	−2 2.63	+ 27.612
		15.6	24.3	33.2	5 24.37	3 38.117	−1 1.56	25.072
	Star G. . . .	17.1	25.9	34.8	6 25.93	5 33.104		
		3.9	12.7	21.6	8 12.73	2 39.207	+1 46.80	
H.								
		14.3	23.2	32.1	9 23.20	3 35.673	−2 2.77	27.508
		15.5	24.3	32.2	10 24.33	3 38.053	−1 1.64	+ 25.128
	Star G. . . .	17.0	26.0	34.9	11 25.97	5 33.096		
		3.9	12.6	21.5	11 13 12.67	2 39.158	+1 46.70	
April 18	B. A. C. 2899 .	20.5	29.2	38.0	10 41 29.23	3 41.435		
		28.5	. .	46.0	42 37.25	4 43.760	1 8.02	− 15.402
		53.5	. .	11.0	44 2.25	1 50.495	2 33.02	+ 20.856
F.		52.5	. .	10.5	45 1.50			
	B. A. C. 2899 .	3.2	11.8	21.0	55 12.00	3 41.285		
		11.5	20.0	29.5	56 20.33	4 44.119	1 8.33	− 15.911
		36.6	45.3	54.5	57 45.47	1 50.520	2 33.47	+ 20.681
		35.3	43.9	53.0	10 58 44.07	3 40.561	3 32.07	+ 0.724
	B. A. C. 2899 .	20.1	28.0	37.3	11 3 28.37	3 41.222		
		28.7	. .	46.0	4 37.35	4 43.700	1 8.98	− 15.555
		53.5	1.6	10.8	6 1.97	1 50.416	2 33.60	+ 20.722
		52.0	0.9	9.3	11 7 0.73	3 40.782	+3 32.36	+ 0.440
April 21		11.0	19.8	28.7	10 47 19.83	4 44.356	−2 55.04	+ 10.449
		41.6	50.4	59.2	48 50.40	2 38.133	−1 24.47	− 21.636
	Star K. . . .	6.0	15.0	23.6	50 14.87	4 33.907		
		36.9	45.7	54.6	51 45.73	3 45.355	+1 30.86	− 1.629
H.		54.4	3.3	12.1	53 3.27	4 42.023	+2 48.40	+ 8.116
		31.1	40.0	48.9	54 40.00	4 44.370	−2 54.97	+ 10.356
		1.7	10.8	19.4	56 10.63	2 38.098	−1 24.34	− 21.778
	Star K. . . .	26.2	34.9	43.8	57 34.97	4 34.014		
		57.1	6.0	14.9	10 59 6.00	3 45.293	+1 31.03	− 1.798
		14.6	23.3	32.5	11 0 23.47	4 41.822	+2 48.50	+ 7.808
		24.0	32.8	41.5	2 32.77	4 44.368	−2 55.13	+ 10.440
		9.5	18.3	27.1	4 18.30	3 33.914	−1 9.60	− 13.091
	Star K. . . .	19.1	28.0	36.6	5 27.90	4 33.928		
		19.0	28.0	36.7	6 27.90	4 40.950	+1 0.00	+ 7.022
		1.2	10.1	18.9	8 10.07	3 37.407	−2 16.16	− 9.572
		7.8	16.7	25.5	9 16.67	3 33.941	−1 9.56	− 13.038
	Star K. . . .	17.5	26.2	35.0	10 26.23	4 33.902		
		17.1	26.1	34.9	11 26.03	4 40.949	+0 59.80	+ 7.047
		45.4	54.2	3.0	13 54.20	4 42.815	−0 47.73	8.759
	Star K. . . .	33.1	42.0	50.7	14 41.93	4 34.056		
		33.0	41.9	50.7	15 41.87	4 40.943	+0 59.94	6.887
		47.1	56.0	4.8	16 55.97	4 42.749	−0 47.56	8.812
	Star K. . . .	34.7	43.5	52.4	17 43.53	4 33.937		
		34.7	43.6	52.2	18 43.50	4 40.968	+0 59.97	7.031
	Star K. . . .	57.0	5.8	14.3	20 5.70	3 44.014		
		33.2	42.2	51.0	20 42.13	3 45.403	0 36.43	1.389
	Star K. . . .	46.2	55.2	3.9	21 55.10	3 44.074		
		22.8	31.8	40.3	22 31.63	3 45.464	0 36.53	1.390
	Star K. . . .	30.4	39.3	48.2	23 39.30	3 44.093		
		7.0	15.7	24.5	24 15.73	3 45.390	0 36.43	1.297
	Star K. . . .	46.9	55.7	4.5	25 55.70	3 44.086		
		52.6	1.5	10.2	27 1.43	4 41.013	1 5.73	10.004
	Star K. . . .	20.7	29.6	38.3	28 29.53	3 44.158		
		26.4	35.3	44.1	29 35.27	4 41.051	1 5.74	9.970
	Star K. . . .	15.0	23.9	32.6	31 23.83	3 44.174		
		1.8	10.6	19.3	11 32 29.57	4 41.086	+1 5.70	+ 9.989

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star G.	8 32 19.24	+20 28 55.81
B. A. C. 2899	8 30 0.50	+19 39 53.50
Star K.	8 32 9.99	+20 1 38.07

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
G. 1,	−2 2.69	.00	+ 7 2.94	+ .13
G. 2,	−1 1.60	.00	+ 6 4.95	+ .12
G. 3,	+1 46.72	.00	+ 9 25.38	+ .18
	m. s.	s.	′ ″	″
K. 1,	−2 55.05	.00	+ 3 39.74	+ .07
K. 2,	−1 24.40	.00	− 5 32.93	− .10
K. 3,	+1 30.94	.00	− 0 26.27	− .01
K. 4,	+2 48.45	.00	+ 2 2.12	+ .04
K. 5,	−2 16 16	.00	− 2 26.81	− .04
K. 6,	−1 9.58	.00	− 3 20.37	− .07
K. 7,	+0 59.90	.00	+ 1 47.88	+ .04
	−0 47.64	.00	+ 2 14.74	+ .04
	+0 59.95	.00	+ 1 46.73	+ .03
	m. s.	s.	′ ″	″
K. 8,	+0 36.46	.00	+ 0 20.84	.00
	m. s.	s.	′ ″	″
K. 9,	+1 5.72	.00	+ 2 33.19	+ .04

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
April 21	Star K. . . .	56.0	4.8	13.6	11 34 4.80	3 44.240		
		1.8	10.6	19.3	34 10.57	3 47.211	+0 5.77	+ 2.971
H.								
	Star K. . . .	28.2	37.0	45.9	35 37.03	3 44.205		
		34.0	42.7	51.6	35 42.77	3 47.099	0 5.74	2.894
	Star K. . . .	9.0	17.7	26.5	38 17.73	3 44.171		
		14.7	23.5	32.3	38 23.50	3 47.187	0 5.77	3.016
	Star K. . . .	10.2	19.1	28.0	40 19.10	3 44.315		
		17.4	26.3	35.0	40 26.23	3 44.544	0 7.13	0.229
	Star K. . . .	49.5	58.4	7.1	40 58.33	3 44.297		
		56.8	5.4	14.2	41 5.47	3 44.496	0 7.14	0.199
	Star K. . . .	29.1	37.6	46.4	41 37.70	3 44.312		
		36.0	44.8	53.7	41 44.83	3 44.474	0 7.13	0.162
	Star K. . . .	5.2	14.0	22.9	46 14.03	3 44.219		
		41.7	50.5	59.1	46 50.43	3 45.527	0 36.40	1.308
	Star K. . . .	58.8	7.7	16.6	48 7.70	3 44.244		
		35.4	44.0	52.8	48 44.07	3 45.525	0 36.37	1.281
	Star K. . . .	38.2	47.1	56.0	49 47.10	3 44.234		
		14.7	23.7	32.4	50 23.60	3 45.606	0 36.50	+ 1.372
	Star K. . . .	38.0	46.7	55.5	55 46.73	3 44.415		
		5.4	14.3	23.0	56 14.23	3 42.605	0 27.50	— 1.810
	Star K. . . .	35.0	43.9	52.5	56 43.80	3 44.480		
		2.6	11.3	20.0	57 11.30	3 42.602	0 27.50	1.878
	Star K. . . .	54.0	2.8	11.7	58 2.83	3 44.410		
		21.4	30.3	39.2	11 58 30.30	3 42.656	0 27.47	— 1.754
	Star K. . . .	0.5	9.3	18.1	12 4 9.30	3 45.707		
		29.9	38.7	47.3	4 38.63	4 41.374	0 29.33	+ 8.744
	Star K. . . .	2.5	11.4	20.3	5 11.40	3 45.740		
		32.0	40.8	49.4	5 40.73	4 41.326	0.29.33	8.663
	Star K. . . .	3.9	12.6	21.4	6 12.63	3 45.680		
		33.1	42.0	50.8	6 41.97	4 41.370	0 29.34	8.767
	Star K. . . .	22.3	31.0	40.0	14 31.10	3 44.474		
		53.3	2.3	11.2	15 2.27	5 45.163	0 31.17	30.774
	Star K. . . .	23.8	32.7	41.3	15 32.60	3 44.412		
		54.8	3.7	12.3	16 3.60	5 45.221	0.31.00	30.894
	Star K. . . .	26.3	35.1	44.0	16 35.13	3 44.487		
		57.5	6.3	15.1	17 6.30	5 45.197	0 31.17	30.795
	Star K. . . .	30.3	39.2	48.0	17 39.17	3 44.531		
		1.4	10.3	19.0	18 10.23	5 45.290	0 31.06	30.844
	Star K. . . .	32.9	41.7	50.7	18 41.77	3 44.531		
		4.0	12.9	21.7	12 19 12.87	5 45.254	+0 31.10	+ 30.808
Apr. 23		16.4	25.3	34.0	9 46 25.23	4 41.532	—3 21.90	+ 20.279
		8.8	17.7	26.4	48 17.63	4 33.619	—1 29.50	+ 12.366
	Star D. . . .	38.3	47.2	55.9	49 47.13	3 34.330		
		54.6	3.3	12.2	51 3.37	3 33.487	+1 16.24	— 0.843
		7.3	16.5	25.2	52 16.33	2 45.237	+2 29.20	— 1.878
H.								
		20.4	29.3	38.0	54 29.23	4 41.516	—3 21.94	+ 20.277
		12.7	21.5	30.4	56 21.53	4 33.632	—1 29.64	+ 12.393
	Star D. . . .	42.4	51.2	59.9	57 51.17	3 34.316		
		58.5	7.3	16.1	9 59 7.30	3 33.410	+1 16.13	— 0.906
		11.6	20.4	29.2	10 0 20.40	2 45.353	+2 29.23	— 1.748

RESULTS.				
	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
K. 10,	+0 5.76	.00	+ 0 45.40	+ .02
K. 11,	+0 7.13	.00	+ 0 3.02	+ .00
K. 12,	+0 36.42	.00	+ 0 20.24	+ .01
K. 13,	+0 27.49	.00	— 0 27.82	— .01
K. 14,	+0 29.33	.00	+ 2 13.82	+ .04
K. 15,	+0 31.10	.00	+ 7 52.73	+ .15

	α	δ
	h. m. s.	° ′ ″
Star D.	8 31 19.18	+20 8 55.84

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
D. 1,	—3 21.92	.00	+ 5 10.95	+ .10
D. 2,	—1 29.56	.00	+ 3 9.56	+ .07
D. 3,	+1 16.19	.00	— 0 13.59	.00
D. 4,	+2 29.25	.00	— 0 28.07	.00

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Apr. 23		15.0	24.0	32.6	10 2 23.87	4 41.472	−3 21.93	+ 20.265	
		7.4	16.3	25.1	4 16.27	4 33.526	−1 29.53	+ 12.319	
	Star D.	37.0	45.8	54.6	5 45.80	3 34.284			
		53.2	2.0	10.8	7 2.00	3 33.374	+1 16.20	− 0.910	
		6.3	15.1	23.9	8 15.10	2 45.204	+2 29.30	1.865	
H.									α h. m. s. δ ° ′ ″
		46.9	55.6	4.4	9 55.63	1 41.509	−2 17.60	35.022	Star A. 8 29 49.81 +20 12 7.43
	Star A.	4.3	13.2	22.2	12 13.23	4 33.538			
		30.7	39.4	42.1	13 39.40	3 45.457	+1 26.17	1.158	Δ α m. s. Δ ρ s. Δ δ ′ ″ Δ ρ ″
		50.2	59.1	8.0	14 59.10	3 33.324	2 45.87		
		10.7	19.7	28.3	16 19.57	2 44.795	+4 6.34		A. 1, −2 17.57 .00 − 8 56.95 − .17
		34.2	43.0	52.0	19 43.07	1 41.546	−2 17.60	34.971	A. 2, +1 26.12 .00 − 0 16.97 .00
	Star A.	51.8	0.6	9.6	22 0.67	4 33.524			A. 3, +2 45.78 .00 − 3 23.28 − .07
		17.9	26.9	35.7	23 26.83	3 45.514	+1 26.16	1.087	A. 4, +4 6.34 .00 − 3 43.61 − .07
		37.5	46.3	55.1	24 46.30	3 33.379	2 45.63		
		58.1	6.9	15.8	26 6.93	2 44.820	+4 6.26		
		0.0	8.9	17.5	28 8.80	1 41.436	−2 17.50	35.033	
	Star A.	17.6	26.3	35.0	30 26.30	4 33.476			
		43.5	52.3	1.2	31 52.33	3 45.508	+1 26.03	1.045	
		2.2	11.2	20.0	33 11.13	3 33.305	2 45.83		
		22.8	31.8	40.6	34 31.73	2 44.772	4 6.43		m. s. s. ′ ″ ″
	Star D.	7.8	16.7	25.4	39 16.63	3 34.271			D. 1, +0 3.24 00 5 7.05 .10
		11.1	20.0	28.7	39 19.93	2 27.058	0 3.30	19.998	
	Star D.	43.6	52.3	1.2	39 52.37	3 34.334			
		46.8	55.8	4.3	39 55.63	2 27.037	0 3.26	20.082	
	Star D.	19.8	28.7	37.3	40 28.60	3 34.279			
		23.0	31.8	40.5	40 31.77	2 27.084	0 3.17	19.980	
	Star F.	33.9	47.8	55.6	46 47.77	5 28.408			
		18.8	27.6	36.2	47 27.53	3 33.240	0 39.76	25.253	α h. m. s. δ ° ′ ″
	Star F.	57.6	6.6	15.3	49 6.50	4 45.371			Star F. 8 31 55.61 +20 15 7.18
		37.6	46.3	55.1	49 46.33	3 45.969	0 39.83	25.264	
	Star F.	0.5	9.4	18.2	51 9.37	4 45.422			Δ α m. s. Δ ρ s. Δ δ ′ ″ Δ ρ ″
		40.6	49.2	58.0	51 49.27	2 46.005	0 39.90	25.279	F. 1, +0 39.81 00 − 6 27.61 − .12
	Star F.	46.7	55.6	4.3	52 55.53	4 45.416			
		26.4	35.4	44.1	53 35.30	2 45.996	0 39.77	25.282	
	Star F.	40.6	49.6	58.2	54 49.43	4 45.456			
		20.4	29.2	38.0	55 29.20	2 46.038	0 39.77	− 25.280	
	Star F.	51.6	0.4	9.1	58 0.37	2 46.080			m. s. s. ′ ″ ″
		12.5	21.3	50.1	58 21.30	3 45.138	0 20.93	+ 11.843	F. 2, +0 21.05 .00 + 3 1.5 + .06
	Star F.	45.2	54.2	3.0	58 54.13	2 46.129			
		6.5	15.2	24.0	59 15.23	3 45.139	0 21.10	11.795	
	Star F.	37.2	46.0	54.8	10 59 46.00	2 46.029			
		58.3	7.1	16.0	11 0 7.13	3 45.126	0 21.13	11.882	
	Star F.	34.7	43.6	52.3	5 43.53	2 46.004			m. s. s.
		36.2	45.0	53.7	5 44.97	2 50.069	0 1.44	4.065	F. 3, +0 1.48 00 + 1 1.78 + .02
	Star F.	5.2	14.0	22.6	6 13.93	2 46.032			
		6.6	15.5	24.2	6 15.43	2 50.083	0 1.50	4.051	
	Star F.	35.1	44.0	52.7	6 43.93	2 46.065			
		36.6	45.5	54.2	6 45.43	2 50.333	0 1.50	+ 3.968	
	Star F.	13.1	22.0	30.8	14 21.97	3 33.424			m s. s. ′ ″ ′
		18.5	27.3	36.2	14 27.33	1 33.862	0 5.36	− 29.478	F. 4, +0 5.24 00 − 7 33.07 15
	Star F.	55.6	4.5	13.3	15 4.47	3 33.464			
		1.0	9.7	18.6	15 9.77	1 33.876	0 5.30	29.504	
	Star F.	39.1	48.0	55.8	15 47.97	3 33.497			
		44.2	53.2	1.9	11 15 53.10	1 33.887	+0 5.13	− 29.526	

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Apr. 23	Star F.	22.1	31.0	39.9	11 16 31.00	3 33.475		
		27.3	36.1	44.8	16 36.07	1 33.770	+0 5.07	— 29.621
H.								
	Star F.	5.3	14.5	23.0	23 14.27	3 33.438		
		10.9	19.5	28.4	11 23 19.60	1 33.781	+0 5.33	— 29.573
Apr. 26		25.6	34.6	43.3	10 20 34.50	3 39.232	—3 16.47	— 5.170
		34.9	43.6	52.3	21 43.60	2 33.283	2 7.37	— 23.904
		5.7	14.5	23.1	23 14.43	4 42.296	0 36.54	+ 10.971
	Star L.	42.1	51.0	59.8	23 50.97	3 44.402		
H.								
		51.6	0.4	9.1	26 0.37	3 39.253	3 16.50	— 5.153
		0.4	9.3	18.2	27 9.30	2 33.366	2 7.57	— 23.827
		31.5	40.4	49.2	28 40.37	4 42.274	0 36.50	+ 10.943
	Star L.	8.0	17.0	25.6	29 16.87	3 44.408		
		8.6	17.3	26.0	31 17.30	3 39.207	3 16.53	— 5.193
		17.6	26.3	35.0	32 26.30	2 33.336	2 7.53	— 23.849
		48.4	57.3	6.1	33 57.27	4 42.284	0 36.56	+ 10.961
	Star L.	25.0	33.9	42.6	34 33.83	3 44.400		
		48.4	57.3	6.2	35 57.30	2 47.124	1 26.87	— 10.102
		38.8	47.8	56.3	36 47.63	4 42.289	0 36.54	+ 10.925
	Star L.	15.3	24.3	32.9	37 24.17	3 44.441		
		34.9	43.8	52.6	38 43.77	2 47.088	1 26.76	— 10.137
		25.1	34.1	42.8	39 34.00	4 42.264	0 36.53	+ 10.901
	Star L.	1.6	10.7	19.3	40 10.53	3 44.440		
		14.5	23.4	32.2	41 23.37	2 47.164	1 26.76	— 10.059
		. .	13.7	22.4	42 13.63	4 42.324	0 36.50	+ 10.963
	Star L.	41.3	50.2	58.9	42 50.13	3 44.438		
		12.5	21.4	30.1	46 21.33	2 46.365	0 39.44	— 10.906
	Star L.	52.0	0.8	9.5	47 0.77	3 44.486		
		7.2	16.1	25.0	48 16.10	2 46.314	0 39.30	10.861
	Star L.	46.7	55.4	4.1	48 55.40	3 44.390		
		1.9	10.7	19.4	50 10.67	2 46.361	0 39.33	— 10.853
	Star L.	41.2	50.0	58.8	50 50.00	3 44.429		
		1.5	10.4	19.2	52 10.37	4 45.174	0 53.40	+ 13.838
	Star L.	55.0	3.7	12.6	53 3.77	3 44.413		
		2.9	11.9	20.6	54 11.80	4 45.192	0 53.40	13.839
	Star L.	56.3	5.3	14.0	55 5.20	3 44.430		
		5.1	14.0	23.0	56 14.07	4 45.166	0 53.46	13.793
	Star L.	58.7	7.6	16.3	57 7.53	3 44.450		
		13.8	22.7	31.3	10 59 22.60	5 36.215	1 39.20	21.845
	Star L.	53.0	1.9	10.3	11 1 1.80	3 44.455		
		19.0	28.0	36.7	2 27.90	5 36.304	1 39.23	21.881
	Star L.	58.3	7.1	16.0	4 7.13	3 44.508		
		5.1	14.0	22.9	5 14.00	5 36.310	1 39.13	+ 21.855
	Star L.	44.3	53.1	2.0	6 53.13	3 44.540		
		28.6	37.4	46.2	11 37.40	3 36.521	2 33.13	— 0.263
		32.8	41.7	50.5	12 41.67	2 44.384	—1 28.86	— 5.185
	Star G.	1.8	10.5	19.3	14 10.53	3 36.784		
		15.8	24.5	33.4	16 24.57	3 45.000	+2 14.04	+ 8.216
		22.6	31.5	40.3	18 31.47	3 36.650	—2 33.23	— 0.064
		27.1	36.0	44.8	19 35.97	2 44.354	—1 28.73	— 5.145
	Star G.	55.9	4.8	13.4	21 4.70	3 36.714		
		9.9	18.8	27.3	11 23 18.67	3 44.906	+2 13.97	+ 8.192

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star L.	8 34 3.05	+20 21 12.77

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
L. 1,	—3 16.50	.00	— 1 19.32	— .02
L. 3,	—2 7.49	.00	— 6 5.95	— .12
L. 4,	—0 36.53	.00	+ 2 48.07	+ .05
	m. s.	s.	′ ″	″
L. 5,	—1 26.80	.00	— 2 34.89	— .05
L. 6,	—0 36.52	.00	+ 2 47.64	+ .05
	m. s.	s.	′ ″	″
L. 7,	—0 39.36	.00	— 2 46.76	— .05
	m. s.	s.	′ ″	″
L. 8,	—0 53.42	.00	+ 3 32.00	+ .07
	m. s.	s.	′ ″	″
L. 9,	—1 39.19	.00	+ 5 35.28	+ .11

	α	δ
	h. m. s.	° ′ ″
Star G.	8 32 18.69	+20 28 57.06

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
G. 1,	—2 33.23	.00	— 0 2.19	.00
G. 2,	—1 28.80	.00	— 1 19.22	— .02
G. 3,	—1 3.03	.00	— 0 38.17	— .01
G. 4,	+2 13.99	.00	+ 2 5.57	+ .04

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
April 26		15.7	24.6	33.5	11 25 24.60	3 36.704	—2 33.33	— 0.103	
		46.0	55.0	3.7	26 54.90	2 47.104	—1 3.03	— 2.488	
H.	Star G.	49.0	57.9	6.9	27 57.93	3 36.807			
		3.1	11.9	20.7	30 11.90	3 44.959	+2 13.97	+ 8.152	
							Δ α	Δ ρ	Δ δ Δ ρ
							m. s.	s.	′ ″ ″
		27.0	35.8	44.5	31 35.77	2 47.075	—1 2.96	— 2.487	G. 5, —1 2.96 .00 — 0 38.44 — .01
	Star G.	30.0	38.7	47.5	32 38.73	3 36.777			
		57.0	5.8	14.6	34 5.80	2 47.130	1 2.97	— 2.526	
	Star G.	59.9	8.8	17.6	35 8.77	3 36.871			
							m. s.	s.	′ ″ ″
		11.9	20.8	29.4	37 20.70	3 47.020	0 47.40	+ 10.173	G. 6, —0 47.50 .00 + 2 37.42 + .05
	Star G.	59.3	8.0	17.0	38 8.10	3 36.847			
		28.4	37.3	46.2	39 37.30	3 47.226	0 47.47	10.300	
	Star G.	15.9	24.8	33.6	40 24.77	3 36.926			
		37.3	46.4	55.1	41 46.27	3 47.199	0 47.63	10.320	
	Star G.	25.0	33.9	42.8	11 42 33.90	3 36.879			
									α δ
									h. m. s. ° ′ ″
April 28		0.6	9.4	18.2	10 26 9.40	3 44.889	0 47.43	10.248	Star G. 8 32 18.66 +20 28 57.45
	Star G.	48.0	56.8	5.7	26 56.83	3 34.641			
H.							Δ α	Δ ρ	Δ δ Δ ρ
							m. s.	s.	′ ″ ″
		13.3	22.1	30.9	29 22.10	3 44.970	0 47.37	10.267	G. 1, —0 47.44 .00 + 2 37.33 + .05
	Star G.	0.5	9.6	18.3	30 9.47	3 34.703			
		26.3	35.2	43.8	31 35.10	3 44.937	0 47.53	10.259	
	Star G.	13.7	22.8	31.4	32 22.63	3 34.678			
							m. s.	s.	′ ″ ″
		45.8	54.6	3.3	34 54.57	4 35.780	0 36.16	14.161	G. 2, —0 36.25 .00 + 3 37.53 + .07
	Star G.	21.9	30.7	39.6	35 30.73	3 34.696			
		49.0	57.6	6.3	37 57.63	4 35.740	0 36.27	14.122	
	Star G.	25.4	33.7	42.6	38 33.90	3 34.695			
		2.6	11.4	20.2	40 11.40	4 35.841	0 36.33	14.266	
	Star G.	39.0	47.7	56.5	40 47.73	3 34.652			
							m. s.	s.	′ ″ ″
		37.0	45.7	54.6	43 45.77	4 35.063	0 11.53	13.294	G. 3, —0 11.50 .00 + 3 26.26 + .07
	Star G.	48.5	57.3	6.1	43 57.30	3 34.846			
		26.3	35.1	44.0	44 35.13	4 35.150	0 11.37	13.542	
	Star G.	37.7	46.6	55.2	44 46.50	3 34.685			
		10.4	19.3	28.2	45 19.30	4 35.145	0 11.60	13.508	
	Star G.	22.0	30.9	39.8	45 30.90	3 34.714			
							m. s.	s.	′ ″ ″
		33.1	42.0	50.7	51 41.93	4 37.843	0 7.37	5.699	G. 4, —0 7.41 .00 + 1 27.25 + .02
	Star G.	40.4	49.3	58.2	51 49.30	4 32.144			
		9.9	18.8	27.5	52 18.73	4 37.986	0 7.40	5.658	
	Star G.	17.3	26.1	35.0	52 26.13	4 32.328			
		49.2	58.0	6.9	52 58.03	4 37.890	—0 7.47	+ 5.709	
	Star G.	56.7	5.6	14.2	10 53 5.50	4 32.181			
							m. s.	s.	′ ″ ″
	Star G.	45.1	54.0	2.9	11 0 54.00	4 32.296			G. 5, +0 5.12 .00 — 2 12.39 — .04
		50.1	59.1	8.0	0 59.07	3 36.750	+0 5.07	— 8.623	
	Star G.	22.5	31.4	40.0	1 31.30	4 32.389			
		27.5	36.4	45.3	1 36.40	3 36.859	0 5.10	8.607	
	Star G.	57.2	6.1	14.8	2 6.03	4 32.436			
		2.5	11.2	20.0	2 11.23	3 36.847	0 5.20	8.666	
	Star G.	34.2	47.1	0.0	8 47.10	3 45.571			
		43.2	56.3	9.0	8 56.17	3 42.376	0 9.07	3.195	G. 6 +0 9.12 .00 — 0 48.76 — .01
	Star G.	25.6	38.5	51.5	9 38.47	3 45.560			
		34.6	47.7	0.4	9 47.57	3 42.386	0 9.10	3.174	
	Star G.	41.4	54.3	7.5	10 54.40	3 45·538			
		50.6	3.6	16.6	11 11 3.60	3 42.360	+0 9.20	— 3.169	

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
April 28	Star G.	41.1	50.0	58.7	11 17 49.93	3 45.474		
H.		32.0	40.9	49.4	18 40.77	2 41.628	+0 50.84	— 16.631
	Star G.	56.5	5.2	14.1	20 5.27	3 45.550		
		47.3	56.3	5.0	20 56.20	2 41.565	0 50.93	16.770
	Star G.	9.5	18.4	27.1	22 18.33	3 45.543		
		0.6	9.3	18.3	23 9.40	2 41.674	0 51.07	16.654
	Star N.	10.4	19.1	28.0	27 19.17	3 42.664		
		46.6	55.6	4.0	28 55.40	2 46.996	1 36.23	8.453
		. .	23.7	32.5	29 23.67	3 38.026	2 4.50	4.638
		41.7	50.4	59.3	30 50.47	3 33.603	3 31.30	9.061
	Star N.	22.3	31.1	40.0	32 31.13	3 42.686		
		33.4	42.0	. .	33 42.07	2 47.236	1 10.94	8.235
		. .	35.8	44.5	34.35.77	3 38.108	2 4.64	4.578
		53.3	2.5	11.3	36 2.37	3 33.583	3 31.24	9.103
	Star N.	44.4	53.2	2.1	37 53.23	3 42.757		
		55.4	4.3	13.0	39 4.23	2 47.172	1 11.00	8.370
		48.9	57.8	6.3	39 57.67	2 50.896	2 4.44	4.646
		15.6	24.7	33.3	41 24.53	3 33.534	+3 31.30	9.223
		3.9	16.8	29.8	45 16.83	2 37.261	—0 17.84	18.368
	Star N.	21.7	34.8	47.5	45 34.67	3 42.844		
		25.2	38.1	51.0	46 38.10	2 37.211	0 18.00	18.494
	Star N.	43.2	56.1	9.0	46 56.10	3 42.920		
		24.2	37.2	50.0	47 37.13	2 37.195	—0 17.97	— 18.407
	Star N.	42.2	55.1	8.0	11 47 55.10	3 42.817		
May 5	Star C.	5.0	13.8	22.4	11 25 13.73	1 45.926		
H.		3.1	12.0	20.7	27 11.93	2 31.895	+1 58.20	+ 3.100
		38.6	47.4	56.0	27 47.33	3 36.836	2 33.60	20.826
		4.5	13.1	52.0	29 13.20	2 31.228	3 59.47	2.433
	Star C.	41.4	50.2	59.0	30 50.20	1 46.050		
		39.6	48.5	57.2	32 48.43	2 31.876	1 58.23	2.957
		15.0	23.9	32.6	33 23.83	3 36.847	2 33.63	20.713
		40.9	49.8	58.5	34 49.73	2 31.324	3 59.53	2.405
	Star C.	7.3	16.2	25.0	37 16.17	1 46.181		
		5.6	14.4	23.2	39 14.40	2 32.003	1 58.23	2.953
		41.2	49.9	58.5	39 49.87	3 36.960	2 33.70	20.695
		6.9	15.7	24.5	41 15.70	2 31.360	+3 59.53	2.310
		5.1	14.0	22.9	43 14.00	2 36.783	—0 12.33	4.695
	Star C.	17.6	26.4	35.0	43 26.33	2 32.088		
		51.9	0.8	9.5	44 0.73	2 36.783	0 12.24	4.666
	Star C.	4.1	13.0	21.8	44 12.97	2 32.117		
		36.0	44.9	55.5	44 44.80	2 36.724	—0 12 27	4.590
	Star C.	48.2	57.1	5.9	44 57.07	2 32.134		
	Star C.	30.0	39.0	47.9	52 38.97	2 32.128		
		37.7	46.6	55.3	52 46.53	3 28.218	+0 7.56	8.875
	Star C.	11.0	20.0	28.7	53 19.90	2 32.139		
		18.6	27.7	36.3	53 27.53	3 28.330	0 7.63	8.976
	Star C.	50.9	59.9	8.4	53 59.73	2 32.097		
		58.7	7.2	16.1	54 7.33	3 28.292	0 7.60	8.980
	Star C.	8.8	17.5	26.2	11 59 17.50	2 32.219		
		10.3	19.0	27.9	12 0 19.07	3 28.099	1 1.57	8.665
	Star C.	24.3	33.1	41.7	1 33.07	2 32.160		
		25.8	34.6	43.2	2 34.53	3 28.106	1 1.46	8.731
	Star C.	39.1	48.0	56.7	3 47.93	2 32.253		
		40.8	49.6	58.3	12 4 49.57	3 28.168	+1 1.64	+ 8.700

RESULTS.

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s	s.	′ ″	″
G. 7,	+0 50.95	.00	— 4 15.91	— .08

	α	δ
	h. m. s.	° ′ ″
Star N.	8 30 33.77	+20 40 32.82

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
N. 1,	+1 10.97	.00	— 2 7.33	— .04
N. 2,	+1 36.23	.00	— 2 9.64	— .04
N. 3,	+2 4.51	.00	— 1 10.87	— .02
N. 4,	+3 31.28	.00	— 2 20.01	— .05
	m. s.	s.	′ ″	″
N. 5,	—0 17.94	.00	— 4 42.56	— .09

	α	δ
	h. m. s.	° ′ ″
Star C.	8 30 0.70	+19 44 9.47

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
C. 1,	+1 58.22	.00	+ 0 46.06	+ .02
C. 2,	+2 33.64	.00	+ 5 18.17	+ .10
C. 3,	+3 59.51	.00	+ 0 36.55	+ .01
	m. s.	s.	′ ″	″
C. 4,	—0 12.28	.00	+ 1 11.32	+ .02
	m. s.	s.	′ ″	″
C. 5,	+0 7.60	.00	+ 2 17.18	+ .04
	m. s.	s.	′ ″	″
C. 6,	+1 1.56	.00	+ 2 13.42	+ .04

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. t.	revs.
Oct. 29	Star C.	50.6	3.6	16.8	4 39 3.67	5 34.948		
		8.9	22.0	35.0	39 21.97	3 40.152	—0 18.30	— 24.881
H.								
	Star C.	48.3	1.1	14.3	40 1.23	5 34.997		
		6.5	19.4	32.3	40 19.40	3 40.149	0 18.17	24.933
	Star C.	44.2	57.1	10.3	40 57.20	5 35.086		
		2.7	15.6	28.6	41 15.63	3 40.180	0 18.43	24.991
	Star C.	22.0	30.6	39.4	47 30.67	5 41.698		
		26.1	34.8	43.7	47 34.87	3 40.360	0 4.20	31.423
	Star C.	55.9	4.7	13.6	48 4.73	5 41.830		
		0.0	8.8	17.5	48 8.77	3 40.378	0 4.04	31.537
	Star C.	33.4	42.2	51.0	48 42.20	5 41.816		
		37.5	46.4	55.2	48 46.37	3 40.389	0 4.17	31.512
	Star C.	5.8	14.3	23.4	49 14.50	5 41.870		
		9.9	18.8	27.5	4 49 18.73	3 40.400	—0 4.23	31.555
	Star C.	2.9	11.6	20.5	5 2 11.67	3 40.814		
		11.2	20.0	28.7	3 19.97	4 43.326	+1 8.30	15.589
		14.8	23.5	32.3	4 23.53	4 41.885	2 11.86	14.148
	Star C.	34.5	43.4	52.1	5 43.33	3 40.826		
		43.0	52.0	0.4	6 51.80	4 43.312	1 8.47	15.563
		46.6	55.2	4.1	7 55.30	4 41.971	2 11.97	14.222
	Star C.	11.0	19.8	28.7	9 19.83	3 40.956		
		19.4	28.3	37.0	10 28.23	4 43.495	1 8.40	15.616
		23.0	31.8	40.5	11 31.77	4 42.040	2 11.94	— 14.161
	Star C.	49.3	58.3	7.0	18 58.20	3 41.222		
		47.9	56.4	5.3	20 56.53	3 38.070	1 58.33	+ 3.152
		36.5	45.1	54.0	21 45.20	4 43.527	2 47.00	— 15.382
	Star C.	59.3	8.1	17.0	23 8.13	3 41.272		
		57.6	6.4	15.1	25 6.37	3 38.201	1 58.24	+ 3.071
		46.3	55.0	3.9	25 55.07	4 43.678	2 46.94	— 15.483
	Star C.	59.0	7.5	16.3	27 7.60	3 41.365		
		57.1	5.8	14.7	29 5.87	3 38.310	1 58.27	+ 3.055
		45.9	54.4	3.3	29 54.53	4 43.841	2 46.93	— 15.553
	Star C.	9.8	18.7	27.5	40 18.67	5 39.183		
		22.0	31.0	39.7	41 30.90	3 31.506	1 12.23	+ 37.762
	Star C.	12.7	21.7	30.4	43 21.60	5 40.243		
		25.0	33.9	42.6	44 33.83	3 - -	1 12.23	
	Star C.	17.0	25.8	34.6	51 25.80	5 40.291		
		29.3	38.1	47.0	52 38.13	2 45.550	1 12.33	37.611
	Star C.	15.5	24.4	33.3	54 24.40	5 40.425		
		28.0	36.9	45.7	55 36.87	2 45.670	1 12.47	37.625
	Star C.	3.4	12.2	21.1	57 12.23	5 40.566		
		15.9	24.6	33.2	58 24.57	2 45.675	1 12.34	37.761
	Star C.	19.8	28.4	37.2	46 28.47	5 40.335		
		57.9	6.3	15.6	48 6.60	2 37.046	1 38.13	46.159
	Star C.	45.8	54.6	3.3	5 59 54.57	5 40.485		
		24.2	33.0	41.5	6 1 32.90	2 37.138	1 38.33	46.217
	Star C.	4.1	13.0	21.8	3 12.97	5 40.644		
		42.3	51.2	59.9	4 51.13	2 37.264	1 38.16	46.250
	Star C.	34.4	43.4	52.3	6 43.37	5 40.685		
		12.9	21.5	30.4	8 21.60	2 37.476	1 38.23	46.079
	Star C.	38.9	47.7	56.4	13 47.67	5 41.067		
		12.6	21.2	30.0	6 16 21.27	4 37.294	+2 33.60	+ 20.781

RESULTS.

	α h. m. s.	δ ° ′ ″
Star C.	8 30 2.52	+19 44 1.68

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
C. 1,	—0 18.30	.00	— 6 22.44	— .16
C. 2,	—0 4.16	.00	— 8 3.23	— .20
C. 3,	+1 8.39	.00	— 3 59.09	— .10
C. 4,	+2 11.92	.00	— 3 37.44	— .09
C. 5,	+1 58.28	.00	+ 0 47.44	+ .02
C. 6,	+2 46.96	.00	— 3 57.31	— .09
C. 7,	+1 12.32	.00	+ 9 38.07	+ .19
C. 8,	+1 38.21	.00	+11 48.20	+ .23
C. 9,	+2 33.56	.00	+ 5 18.53	+ .10
C. 10,	+3 32.20	.00	+ 0 11.53	.00
C. 11,	+2 59.85	.00	+ 3 0.22	+ .06
C. 12,	+3 59.52	.00	+ 0 36.67	+ .01

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 29	Star C.	20.8	29.5	38.3	6 19 29.53	5 41.138		
		54.2	2.9	11.8	22 2.97	4 37.386	+2 33.44	+ 20.760
		52.8	1.7	10.4	23 1.63	5 40.303	3 32.10	0.835
H.								
	Star C.	27.7	36.4	45.2	24 36.43	5 41.253		
		1.3	10.0	18.9	27 10.07	4 37.497	2 33.64	20.764
		0.0	8.7	17.5	28 8.73	5 40.584	3 32.30	0.669
	Star C.	20.7	29.3	38.3	37 29.43	5 41.682		
		20.5	29.2	38.1	40 29.27	4 46.985	2 59.84	11.705
		20.1	29.0	37.8	41 28.97	5 39.289	3 59.54	2.393
	Star C.	41.9	50.5	59.6	42 50.67	5 41.820		
		41.8	50.6	59.3	45 50.57	4 47.062	2 59.90	11.766
		41.3	50.3	58.9	46 50.17	5 39.450	3 59.50	2.370
	Star C.	6.4	15.3	24.1	48 15.27	5 41.913		
		6.3	15.1	23.8	51 15.07	4 47.142	2 59.80	11.779
		6.0	14.7	23.7	6 52 14.80	5 39.504	+3 59.53	+ 2.409
Nov. 1	Star C.	2.2	15.7	28.5	4 5 15.47	5 35.174		
		21.0	33.9	46.7	5 33.87	3 40.320	−0 18.40	— 24.939
H.								
	Star C.	57.3	10.1	23.1	7 10.17	5 35.284		
		15.5	28.3	41.4	7 28.40	3 40.372	0 18.23	24.997
	Star C.	59.9	12.9	25.7	8 12.83	5 35.420		
		18.2	31.0	44.1	8 31.10	3 40.476	0 18.27	25.029
	Star C.	3.3	11.6	20.6	14 11.83	5 42.267		
		7.1	16.0	24.6	14 15.90	3 40.727	0 4.07	31.625
	Star C.	43.7	52.3	0.9	14 52.30	5 42.237		
		47.6	56.2	5.1	14 56.30	3 40.708	0 4.00	31.614
	Star C.	25.2	33.9	42.7	15 33.93	5 42.320		
		29.2	38.0	46.8	15 38.00	3 40.718	0 4.07	— 31.687
	Star I.	12.2	21.0	29.8	32 21.00	2 41.095		
		33.7	42.4	51.3	33 42.47	3 45.194	1 21.47	+ 16.884
	Star I.	33.9	42.3	51.1	34 42.43	2 41.183		
		55.2	3.9	12.6	36 3.90	3 45.284	1 21.47	16.886
	Star I.	55.2	4.1	12.7	37 4.00	2 41.368		
		16.7	25.4	34.2	38 25.43	3 45.343	1 21.43	+ 16.760
	Star I.	5.5	14.1	22.9	40 14.17	4 41.530		
		33.0	41.7	50.6	40 41.77	3 45.620	0 27.60	— 8.987
	Star I.	3.7	12.5	21.2	41 12.47	4 41.606		
		31.6	40.2	49.0	41 40.27	3 45.699	0 27.80	8.984
	Star I.	3.2	12.1	20.7	42 12.00	4 41.620		
		30.9	39.6	48.6	42 39.70	3 45.724	0 27.70	8.973
	Star I.	23.2	31.8	40.6	51 31.87	4 46.065		
		10.9	19.4	28.2	52 19.50	3 45.903	0 47.63	13.239
	Star I.	41.0	49.6	58.6	53 49.73	4 46.122		
		28.6	37.3	46.2	54 37.37	3 45.942	0 47.64	13.257
	Star I.	39.9	48.8	57.6	55 48.77	4 46.089		
		27.7	36.2	45.0	56 36.30	3 46.000	0 47.53	— 13.166
	Star I.	46.0	54.5	3.4	58 54.63	3 42.616		
		20.2	29.1	37.7	4 59 29.00	3 46.580	0 34.37	+ 3.964
	Star I.	54.0	2.9	11.4	5 0 2.77	3 42.729		
		28.4	37.1	46.0	0 37.17	3 46.581	0 34.40	3.852
	Star I.	0.6	9.2	18.0	1 9.27	3 42.930		
		34.9	43.9	52.4	5 1 43.73	3 46.703	−0 34.46	+ 3.773

RESULTS.

	α h. m. s.	δ ° ′ ″
Star C.	8 30 2.61	+19 44 1.37

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
C. 1,	−0 18.30	.00	— 6 23.25	— .17
C. 2,	−0 4.05	.00	— 8 5.31	— .21

	α h. m. s.	δ ° ′ ″
Star I.	8 32 36.16	+19 49 20.97

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
I. 1,	−1 21.46	.00	+ 4 18.33	+ .09
I. 2,	−0 27.70	.00	— 2 17.74	— .05
I. 3,	−0 47.60	.00	— 3 22.77	— .07
I. 4,	−0 34.41	.00	+ 0 59.25	+ .02
I. 5,	−0 37.59	.00	— 2 19.87	— .04
I. 6,	−0 13.78	.00	— 2 33.47	— .05

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 1	Star I.	7.9	16.6	25.3	5 10 16.60	4 42.992		
		35.4	44.3	53.0	10 44.23	3 46.906	—0 37.63	— 9.163
H.								
	Star I.	7.7	16.1	25.3	11 16.37	4 43.193		
		35.3	44.2	53.0	11 44.17	3 47.198	0 37.80	9.072
	Star I.	7.2	15.6	25.0	12 15.93	4 43.158		
		34.6	43.0	52.2	12 43.27	3 47.109	0 37.34	9.126
	Star I.	44.1	53.0	1.7	19 52.93	4 44.410		
		58.0	6.6	15.6	20 6.73	3 47.419	0 13.80	10.068
	Star I.	31.3	40.4	49.0	20 40.23	4 44.546		
		45.2	54.0	2.9	20 54.03	3 47.634	0 13.80	9.989
	Star I.	47.4	55.8	4.7	21 55.97	4 44.420		
		0.8	9.6	18.7	5 22 9.70	3 47.536	—0 13.73	— 9.961
Nov. 5	Star I.	4.1	12.8	21.7	3 51 12.87	4 43.980		
		39.6	48.3	57.1	51 48.33	3 39.288	—0 35.46	— 17.769
H.								
	Star I.	10.0	18.7	27.4	52 18.70	4 44.024		
		45.3	54.1	2.9	52 54.10	3 39.317	0 35.40	17.784
	Star I.	15.0	23.6	32.5	53 23.70	4 44.046		
		50.1	58.9	7.7	53 58.90	3 39.454	—0 35.20	17.669
	Star I.	49.1	57.9	6.7	3 59 57.90	3 39.674		
		15.2	24.2	32.9	4 0 24.10	4 35.624	+0 26.20	9.027
	Star I.	50.3	59.0	7.8	0 59.03	3 39.632		
		16.3	25.2	33.9	1 25.13	4 35.635	0 26.10	9.080
	Star I.	49.6	58.4	7.2	1 58.40	3 39.701		
		15.8	24.6	33.4	2 24.60	4 35.717	0 26.20	9.093
	Star I.	33.2	41.9	50.8	9 41.97	3 34.132		
		32.0	40.8	49.6	10 40.80	4 41.033	0 58.83	19.978
	Star I.	49.9	58.6	7.3	11 58.60	3 34.050		
		48.3	57.2	6.2	12 57.23	4 41.127	0 58.63	20.154
	Star I.	13.0	21.9	30.8	14 21.90	3 34.295		
		11.9	20.7	29.6	15 20.73	4 41.228	0 58.83	— 20.010
	Star I.	10.8	19.4	28.3	18 19.50	3 34.345		
		57.3	6.0	14.9	20 6.07	2 31.456	1 46.57	+ 15.674
	Star I.	10.9	19.7	28.5	21 19.70	3 34.428		
		57.4	6.0	14.8	23 6.07	2 31.475	1 46.37	15.738
	Star I.	59.2	8.0	16.8	24 8.00	3 34.550		
		45.9	54.5	3.2	25 54.53	2 31.602	+1 46.53	15.733
	Star I.	41.9	50.7	59.3	33 50.63	2 33.276		
		22.0	30.9	39.8	36 30.90	4 45.751	—2 40.27	38.337
	Star I.	51.5	0.2	9.0	38 0.23	2 33.456		
		31.8	40.4	49.2	40 40.47	4 45.880	2 40.24	38.286
	Star I.	57.9	6.5	15.6	42 6.67	2 33.650		
		38.1	46.7	55.6	44 46.80	4 46.002	2 40.13	+ 38.214
		40.0	48.9	57.7	51 48.87	4 40.391	—1 46.66	— 11.881
	Star B.	26.8	35.5	44.3	53 35.53	3 41.587		
		33.1	42.0	50.8	54 41.97	3 45.044	+1 6.44	— 3.457
		36.8	45.5	54.2	55 45.50	3 35.052	2 9.97	+ 6.535
		42.4	51.3	0.1	56 51.27	2 37.893	+3 15.74	+ 16.479
		50.6	59.3	8.0	4 59 59.30	4 40.643	—1 46.83	— 11.970
	Star B.	37.3	46.1	55.0	5 1 46.13	3 41.750		
		43.7	52.5	1.4	2 52.53	3 45.227	+1 6.40	— 3.477
		47.4	56.3	5.1	3 56.27	3 35.345	2 10.14	+ 6.405
		53.2	1.9	11.0	5 2.03	2 38.164	3 15.90	16.371
		41.7	50.6	59.3	5 6 50.53	2 37.140	+5 4.40	+ 17.395

RESULTS.

	α h. m. s.	δ ° ′ ″
Star I.	8 32 36.28	+19 49 20.23

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ′
I. 1,	—0 35.35	.00	— 4 32.09	— .11
I. 2,	+0 26.17	.00	— 2 19.06	— .05
I. 3,	+0 58.76	.00	— 5 7.47	— .12
I. 4,	+1 46.49	.00	+ 4 1.02	+ .10
I. 5,	—2 40.21	.00	+ 9 47.10	+ .19

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 5		20.9	29.7	38.5	5 8 29.70	4 40.910	—1 46.73	— 11.933
	Star B.	7.6	16.5	25.2	10 16.43	3 42.054		
		14.1	23.0	31.8	11 22.97	3 45.543	+1 6.54	— 3.489
H.		18.0	26.7	35.4	12 26.70	3 35.542	2 10.27	+ 6.512
		23.5	32.3	41.2	13 32.33	2 38.440	3 15.90	16.399
		12.1	21.1	29.8	15 21.00	2 37.460	+5 4.57	17.379
		47.2	56.1	4.9	23 56.07	2 40.434	—2 21.76	15.361
	Star B.	9.0	17.8	26.7	26 17.83	3 43.010		
		37.7	46.2	55.1	27 46.33	2 37.474	+1 28.50	18.321
		46.9	55.5	4.3	28 55.57	3 38.369	2 37.74	4.641
		56.0	5.0	13.7	30 4.90	3 35.137	3 47.07	7.873
		10.0	18.8	27.4	31 18.73	3 34.255	+5 0.90	8.755
		33.1	41.8	50.7	32 41.87	2 40.736	—2 21.86	15.407
	Star B.	55.0	3.8	12.4	35 3.73	3 43.358		
		23.4	32.2	41.2	36 32.27	2 37.896	+1 28.54	18.247
		32 8	41.4	50.2	37 41.47	3 38.566	2 37.74	4.792
		42.0	50.5	59.3	38 50.60	3 35.480	3 46.87	7.878
		55.7	4.7	13.4	40 4.60	3 34.580	+5 0.87	8.778
		5.2	14.0	22.8	42 14.00	2 41.026	—2 21.83	15.400
	Star B.	27.3	35.8	44.4	44 35.83	3 43.641		
		55.6	4.3	13.2	46 4.37	2 38.112	+1 28.54	18.314
		4.9	13.6	22.5	47 13.67	3 38.723	2 37.84	4.918
		14.1	22.9	31.7	48 22.90	3 35.624	3 47.07	8.017
		27.9	36.7	45.6	49 36.73	3 34.894	+5 0.90	8.747
		1.8	10.2	19.2	52 10.40	2 36.901	—0 38.97	19.844
	Star B.	40.6	49.4	58.1	52 49.37	2 43.960		
		58.0	6.9	15.5	55 6.80	3 37.166	+2 17.43	6.794
		56.6	5.4	14.1	56 5.37	2 40.233	+3 16.00	16.512
		13.9	22.8	31.8	57 22.83	2 37.038	—0 38.87	19.972
	Star B.	53.0	1.7	10.4	5 58 1.70	3 44.225		
		10.2	19.0	27.9	6 0 19.03	3 37.376	+2 17.33	6.849
		9.0	17.6	26.6	1 17.73	2 40.415	+3 16.03	16.595
		50.8	59.8	8.4	3 59.67	2 37.140	—0 38.90	19.917
	Star B.	29.8	38.6	47.3	4 38.57	3 44.272		
		47.1	56.0	4.8	6 55.97	3 37.463	+2 17.40	6.809
		45.8	54.7	3.3	1 17.73	2 40.594	+3 16.03	16.463
		52.1	1.0	9.7	10 0.93	2 47.305	—0 12.74	10.238
	Star B.	5.0	13.5	22.5	10 13.67	3 44.758		
		41.0	50.0	59.0	10 50.00	2 47.258	0 12.90	10.351
	Star B.	54.2	2.7	11.8	11 12.90	3 44.824		
		19.2	27.9	37.0	11 28.03	2 47.403	—0 12.77	+ 10.238
	Star B.	32.1	40.7	49.6	6 11 40.80	3 44.856		
Nov. 12	Star B.	44.2	52.7	1.5	4 17 52.80	3 42.666		
		35.6	44.3	53.2	18 44.37	4 41.735	+0 51.57	— 12.146
H.								
	Star B.	7.8	16.5	25.3	20 16.53	3 42.738		
		59.4	8.0	17.0	21 8.13	4 41.777	0 51.60	— 12.116
		23.8	32.6	41.4	22 32.60	3 33.224	2 16.07	+ 9.514
		37.9	46.4	55.3	23 46.53	3 42.881	3 30.00	— 0.143
	Star B.	1.9	10.7	19.6	25 10.73	3 42.912		
		53.5	2.2	11.1	26 2.27	4 41.965	0 51.54	— 12.130
		17.9	26.8	35.6	27 26.77	3 33.355	2 16.04	+ 9.557
		31.8	40.8	49.5	28 40.70	3 43.044	3 29.97	— 0.132
	Star B.	15.0	23.8	32.8	30 23.87	3 42.925		
		6.7	15.3	24.2	31 15.40	4 . .	0 51.53	
		31.2	40.0	48.8	32 40.00	3 33.440	2 16.13	+ 9.485
		45.1	53.9	2.9	33 53.97	3 43.063	3 30.10	— 0.138
	Star B.	45.4	54.3	3.1	35 54.27	3 43.073		
		. .	45.8	. .	36 45.80	4 . .	0 51.53	
		1.6	10.4	19.2	38 10.40	3 33.553	2 16.13	+ 9.520
		15.2	24.2	33.1	4 39 24.17	3 43.303	+3 29.90	— 0.230

RESULTS.

		α h. m. s.	δ ° ′ ″
Star B.		8 29 56.05	+19 59 6.24

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
B. 1,	—1 46.74	.00	— 3 2.95	— .06
B. 2,	+1 6.46	.00	— 0 53.28	— .02
B. 3,	+2 10.13	.00	+ 1 39.45	+ .03
B. 4,	+3 15.85	.00	+ 4 11.78	+ .08
B. 5,	+5 4.48	.00	+ 4 26.68	+ .08
B. 6,	—2 21.82	.00	+ 3 56.03	+ .07
B. 7,	+1 28.53	.00	+ 4 40.58	+ .09
B. 8,	+2 37.77	.00	+ 1 13 37	+ .02
B. 9,	+3 47.00	.00	+ 2 1.52	+ .04
B. 10,	+5 0.89	.00	+ 2 14.35	+ .04
B. 11,	—0 38.91	.00	+ 5 5.38	+ .09
B. 12,	+2 17.39	.00	+ 1 44.55	+ .02
B. 13,	+3 16.02	.00	+ 4 13.42	+ .07
B. 14,	—0 12.80	.00	+ 2 37.60	+ .06

		α h. m. s.	δ ° ′ ″
Star B.		8 29 56.28	+19 59 5.34

		Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
Cloudy at times.	B. 1,	+0 51.55	.00	—3 6.06	— .06
	B. 2,	+2 16.09	.00	+2 26.00	+ .06
	B. 3,	+3 29.99	.00	—0 2.47	.00
	B. 4,	+0 33.40	.00	+2 2.73	+ .05

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m s.	revs.
Nov. 12	Star B. . . .	52.4	1.2	10.0	4 47 1.20	3 43.388		
		25.8	34.8	43.6	47 34.73	3 . .	+0 33.53	
H.								
	Star B. . . .	47.8	56.5	5.4	48 56.57	3 43.439		
		21.3	29.9	38.7	49 29.97	3 35.437	0 33.40	+ 8.002
	Star B. . . .	41.0	49.8	58.5	50 49.77	3 43.496		
		14.3	23.2	13.9	51 23.13	3 35.560	0 33.36	7.936
	Star B. . . .	30.0	38.7	47.5	52 38.73	3 43.595		
		3.2	12.0	20.9	53 12.03	3 35.528	0 33.30	+ 8.067
	Star K. . . .	46.0	54.9	3.6	57 54.83	3 38.502		
		16.4	25.2	34.1	58 25.23	3 40.107	0 30.40	— 1.605
	Star K. . . .	53.4	2.0	11.0	59 2.13	3 38.766		
		24.0	32.8	41.6	4 59 32.80	3 40.436	0 30.67	1.670
	Star K. . . .	54.5	3.2	12.1	5 0 3.27	3 38.923		
		25.1	33.9	42.6	0 33.87	3 40.570	+0 30.60	— 1.647
		10.7	19.3	28.2	7 19.40	2 43.207	—0 47.63	+ 8.788
	Star K. . . .	58.2	7.0	15.9	8 7.03	3 39.210		
		58.1	6.9	15.8	9 6.93	2 44.957	+0 59.90	7.038
		7.2	16.2	24.9	10 16.10	2 39.654	+2 9.07	12.341
		8.2	17.1	26.0	12 17.10	2 43.363	—0 47.63	8.792
	Star K. . . .	56.0	4.7	13.5	13 4.73	3 39.370		
		55.9	4.7	13.4	14 4.67	2 45.124	+0 59.94	7.031
		4.9	13.8	22.3	15 13.67	2 39.737	+2 8.94	12.418
		0.0	8.5	17.6	17 8.70	2 43.503	—0 47.67	8.818
	Star K. . . .	47.7	56.3	5.1	17 56.37	3 39.536		
		47.6	56.1	5.1	18 56.27	2 45.326	+0 59.90	6.995
		56.5	5.3	14.1	20 5.30	2 40.050	+2 8.93	+ 12.271
		5.6	14.4	23.3	23 14.43	3 46.815	—0 5.84	— 2.941
	Star K. . . .	11.5	20.2	29.1	23 20.27	3 43.874		
		39.1	47.9	53.8	23 47.93	3 46.763	0 5.87	2.853
	Star K. . . .	45.0	53.8	2.6	23 53.80	3 43.910		
		12.4	21.2	30.1	24 21.23	3 46.976	—0 5.77	2.879
	Star K. . .	18.2	27.0	35.8	24 27.00	3 44.097		
	Star K. . . .	11.7	20.5	29.4	30 20.53	3 44.251		
		13.0	21.8	30.7	30 21.83	3 47.051	+0 1.30	2.800
	Star K. . . .	45.8	54.4	3.3	30 54.50	3 44.322		
		47.1	55.8	4.4	30 55.77	3 47.050	0 1.27	2.728
	Star K. . . .	16.2	24.9	33.9	31 25.00	3 44.357		
		17.4	26.1	35.1	31 26.20	3 47.075	0 1.20	2.718
	Star K. . . .	38.7	47.5	56.3	35 47.50	3 44.472		
		0.5	9.2	18.0	36 9.23	3 49.240	0 21.73	4.768
	Star K. . . .	31.5	40.3	49.1	36 40.30	3 44.534		
		53.3	2.0	11.0	37 2.10	3 49.230	0 21.80	4.696
	Star K. . . .	24.2	32.9	42.0	37 33.03	3 44.580		
		46.1	54.8	3.7	37 54.87	3 49.391	0 21.84	4.811
	Star K. . . .	24.6	33.4	42.1	45 33.37	3 44.966		
		34.3	43.4	52.2	45 43.30	4 55.064	0 9.93	23.175
	Star K. . . .	5.7	14.6	23.3	46 14.53	3 45.030		
		16.0	24.6	33.4	46 24.67	4 55.281	0 10.14	23.328
	Star K. . .	47.0	55.8	4.6	46 55.80	3 45.071		
		57.1	5.8	14.7	5 47 5.87	4 55.221	+0 10.07	— 23.227

RESULTS

	α h. m. s.	δ ° ′
Star K	8 32 12.02	+20 1 28.66

	Δ α m. s.	Δ ρ s.	Δ δ ′	Δ δ ″	Δ ρ ″
K. 1,	+0 30.56	.00	— 0	25.17	— .01
K. 2,	—0 47.64	.00	+ 2	14.96	+ .05
K. 3,	+0 59.91	.00	+ 1	47.68	+ .04
K. 4,	+2 8.98	.00	+ 3	9.31	+ .06
K. 5,	—0 5.83	.00	— 0	44.34	— .02
K. 6,	+0 1.26	.00	— 0	42.16	— .02
K. 7,	+0 21 79	.00	— 1	12.97	— .02
K. 8,	+0 10 05	.00	— 5	56.48	— .12
K 9,	+0 29 43	.00	— 4	36.08	— .09

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 12	Star K.	49.1	57.9	6.8	5 54 57.93	3 45.354		
		18.5	27.3	56.1	55 27.30	4 50.284	+0 29.37	— 18.007
H.								
	Star K.	53.3	2.0	11.0	56 2.10	3 45.426		
		22.6	31.6	40.4	56 31.53	4 50.343	0 29.43	17.994
	Star K.	59.7	8.4	17.1	57 8.40	3 45.434		
		29.1	37.9	46.7	5 57 37.90	4 50.359	+0 29.50	— 18.002
Nov. 15	Star B.	47.1	55.9	5.0	4 15 56.00	3 44.386		
		20.1	29.5	38.3	16 29.30	3 36.465	+0 33.30	+ 7.921
H.								
	Star B.	46.5	55.3	4.2	17 55.33	3 44.460		
		19.7	28.4	37.7	18 28.60	3 36.523	0 33.27	7.933
	Star B.	42.1	51.1	59.9	19 51.03	3 44.436		
		15.7	24.4	33.3	20 24.47	3 36.708	0 33.44	7.728
	Star K.	38.2	47.0	55.6	23 46.93	3 35.063		
		37.6	46.2	55.0	24 46.27	2 40.817	0 59.34	+ 7.031
		48.0	56.4	5.4	26 56.60	4 47.277	3 9.67	— 25.291
	Star K.	43.4	52.2	1.3	31 52.30	3 35.371		
		43.7	52.3	1.0	32 52.33	2 41.127	0 60.03	+ 7.029
		54.0	2.8	11.4	35 2.73	4 47.590	3 10.43	— 25.296
	Star K.	13.9	22.6	31.4	36 22.63	3 35.499		
		13.6	22.3	31.2	37 22.37	2 41.213	0 59.74	+ 7.071
		24.0	32.7	41.6	39 39.77	4 47.656	3 10.14	— 25.234
	Star K.	42.9	51.6	0.4	41 51.63	3 35.816		
		9.7	18.3	27.2	42 18.40	4 43.142	0 26.77	20.403
	Star K.	39.2	48.0	56.8	42 48.00	3 35.770		
		5.9	14.1	23.2	43 14.40	4 43.292	0 26.40	20.599
	Star K.	34.6	43.0	52.0	43 43.20	3 35.847		
		1.1	9.6	18.5	44 9.73	4 43.385	0 26.53	20.615
	Star K.	5.0	13.7	22.5	50 13.73	3 36.053		
		18.9	27.7	36.7	50 27.77	4 49.060	0 14.04	26.084
	Star K.	46.3	55.2	4.0	50 55.17	3 36.020		
		0.7	9.0	18.0	51 9.23	4 49.160	0 14.06	26.217
	Star K.	28.7	37.6	46.2	51 37.50	3 36.074		
		42.9	51.5	0.6	51 51.67	4 49.110	0 14.17	26.113
	Star K.	22.8	31.6	40.3	4 59 31.57	3 36.246		
		31.2	40.0	48.7	5 0 39.97	3 42.712	1 8.40	6.466
		15.0	28.8	32.4	2 23.73	4 41.734	2 52.16	18.565
	Star K.	22.0	30.9	39.6	3 30.83	3 36.374		
		30.6	39.1	48.0	4 39.23	3 42.907	1 8.40	6.533
		14.5	23.1	32.0	6 23.20	4 41.813	2 52.37	18.516
	Star K.	45.3	54.0	2.9	7 54.07	3 36.505		
		53.8	2.2	11.2	9 2.40	3 43.089	1 8.33	6.584
		37.5	46.2	55.1	10 46.27	4 42.034	2 52.20	18.606
	Star K.	17.4	26.2	35.0	12 26.20	3 36.657		
		8.0	16.9	25.7	13 16.87	3 38.486	0 50.67	1.829
	Star K.	17.3	26.1	35.1	14 26.17	3 36.754		
		8.1	16.8	25.7	15 16.87	3 38.561	0 50.70	1.807
	Star K.	21.2	29.9	38.7	16 29.93	3 36.740		
		11.9	20.6	29.3	17 20.60	3 38.493	+0 50.67	— 1.753
		55.2	4.0	12.8	24 4.00	2 35.738	—0 50.97	+ 28.650
	Star K.	46.2	55.0	3.7	5 24 54.97	4 38.526		

RESULTS.

A very high wind during the first half of the observations.

	α h. m. s.	δ ° ′ ″
Star B.	8 29 56.33	+19 59 4.89

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
B. 1,	+0 33.34	.00	+ 2 0.57	+ .05

	α h. m. s.	δ ° ′ ″
Star K.	8 32 12.12	+20 1 28.03

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
K. 1,	+0 59.70	.00	+ 1 48.04	+ .04
K. 2,	+3 10.08	.00	— 6 27.64	— .14
K. 3,	+0 26.57	.00	— 5 15.13	— .11
K. 4,	+0 14.09	.00	— 6 40.89	— .14
K. 5,	+1 8.38	.00	— 1 40.12	— .03
K. 6,	+2 52.24	.00	— 4 44.69	— .09
K. 7,	+0 50.68	.00	— 0 27.55	— .01
K. 8,	—0 50.94	.00	+ 7 19.43	+ .15

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 15		9.9	18.6	27.4	5 26 18.63	2 35.798	−0 50.94	+ 28.705
	Star K.	0.8	9.6	18.3	27 9.57	4 38.641		
H.								
		17.2	25.9	35.0	28 26.03	2 35.930	0 50.90	28.598
	Star K.	8.1	17.0	25.7	29 16.93	4 38.666		
		55.8	4.6	13.4	34 4.60	2 38.387	−1 29.50	+ 12.281
	Star D.	25.4	34.0	42.9	35 34.10	3 37.883		
		41.4	50.2	59.0	36 50.20	3 38.734	+1 16.10	− 0.851
		54.7	3.2	12.1	38 3.33	3 39.836	+2 29.23	− 1.953
		12.1	20.8	29.6	40 20.83	2 38.611	−1 29.60	+ 12.239
	Star D.	41.8	50.3	59.2	41 50.43	3 38.065		
		57.9	6.5	15.3	43 6.57	3 38.969	+1 16.14	− 0.904
		11.0	19.6	28.4	44 19.67	3 40.006	+2 29.24	− 1.941
		44.2	53.0	1.8	45 53.00	2 38.710	−1 29.53	+ 12.265
	Star D.	13.9	22.4	31.3	47 22.53	3 38.190		
		30.0	38.7	47.6	48 38.77	3 39.060	+1 16.24	− 0.870
		43.0	51.8	0.7	49 51.83	3 40.044	+2 29.30	1.854
		59.0	7.9	16.6	51 7.83	3 45.466	−0 28.77	6.990
	Star D.	27.9	36.6	45.3	51 36.60	3 38.476		
		2.7	11.1	20.0	52 11.27	3 45.661	0 28.50	7.119
	Star D.	31.0	39.7	48.6	52 39.77	3 38.542		
		2.5	11.4	20.0	53 11.30	3 45.703	−0 28.63	7.096
	Star D.	31.1	39.9	48.8	5 53 39.93	3 38.607		
	Star D.	15.8	24.6	33.2	6 2 24.53	3 39.746		
		19.0	28.0	36.8	2 27.93	4 46.525	+0 3.40	19.856
	Star D.	51.8	0.6	9.3	3 0.57	3 39.897		
		55.0	3.8	12.7	3 3.83	4 46.740	0 3.26	19.920
	Star D.	26.1	34.8	43.4	3 34.73	3 39.925		
		29.3	38.1	46.9	3 38.10	4 46.706	0 3.37	19.858
	Star D.	3.7	12.3	21.2	13 12.40	3 35.139		
		56.3	5.2	14.1	14 5.20	3 36.546	0 52.80	1.407
	Star D.	40.7	49.2	58.1	15 49.33	3 35.160		
		33.4	42.2	51.0	16 42.20	3 36.650	0 52.87	1.490
	Star D.	53.1	1.9	10.9	18 1.97	3 35.184		
		46.0	54.9	3.8	18 54.90	3 36.673	0 52.93	1.489
	Star D.	38.8	47.6	56.2	21 47.53	3 35.270		
		45.2	54.0	2.8	22 54.00	3 43.330	1 6.47	8.060
	Star D.	28.4	37.1	46.0	24 37.17	3 35.316		
		35.0	43.7	52.6	25 43.77	3 43.383	1 6.60	8.067
	Star D.	3.3	12.1	21.0	27 12.13	3 35.334		
		10.1	18.8	27.6	28 18.83	3 43.490	1 6.70	− 8.156
	Star D.	26.8	35.7	44.4	31 35.63	3 35.442		
		41.8	50.4	59.3	32 50.50	3 32.334	1 14.87	+ 3.108
	Star D.	8.3	17.1	26.0	34 17.13	3 35.452		
		23.2	31.9	40.6	35 31.90	3 32.490	1 14.77	2.962
	Star D.	3.7	12.3	21.1	37 12.37	3 35.530		
		18.7	27.2	36.1	6 38 27.33	3 32.460	+1 14.96	+ 3.070
Nov. 24	Star K.	50.6	59.4	8.2	4 34 59.40	3 37.318		
			59.3	8.2	35 59.33	2 43.063	+0 59.93	+ 7.040
H.		0.7	9.7	18.6	38 9.67	4 49.518	3 10.27	− 25.277
	Star K.	19.5	28.2	37.3	39 28.33	3 37.604		
		19.5	28.2	37.1	40 28.27	2 43.304	0 59.94	+ 7.085
		30.0	38.8	47.6	4 42 38.80	4 49.795	+3 10.47	− 25.268

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star D.	8 31 21.34	+20 8 45.78

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
D. 1,	−1 29.54	.00	+ 3 8.07	+ .06
D. 2,	+1 16.16	.00	− 0 13.42	.00
D. 3,	+2 29.26	.00	− 0 29.39	− .01
D. 4,	−0 28.63	.00	− 1 48.40	− .03
D. 5,	+0 3.34	.00	− 5 4.88	− .09
D. 6,	+0 52.87	.00	− 0 22.42	.00
D. 7,	+1 6.59	.00	− 2 4.14	− .04
D. 8,	+1 14.87	.00	+ 0 46.73	+ .01

	α	δ
	h. m. s.	° ′ ″
Star K.	8 32 12.41	+20 1 27.00

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
	+0 59.90	.00	+ 1 47.42	+ .04
	+3 10.40	.00	− 6 28.44	− .14

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ *a*	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 24	Star K.	2.1	11.0	19.8	4 44 10.97	3 37.645		
		2.0	10.8	19.6	45 10.80	2 43.542	+0 59.83	+ 6.888
		12.7	21.4	30.2	47 21.43	4 50.002	+3 10.46	— 25.434
H.								
		3.1	11.9	20.7	53 11.90	2 40.339	—0 3.43	+ 11.274
	Star D.	6.6	15.3	24.1	53 15.33	3 38.828		
		37.8	46.5	55.3	53 46.53	2 40.342	0 3.44	11.276
	Star D.	41.0	50.1	58.8	53 49.97	3 38.833		
		16.6	25.4	34.3	54 25.43	2 40.297	0 3.44	11.386
	Star D.	20.0	28.9	37.7	54 28.87	3 38.898		
		49.0	57.8	6.7	54 57.83	2 40.366	0 3.30	11.308
	Star D.	52.4	1.0	10.0	55 1.13	3 38.889		
		24.4	33.3	42.2	55 33.30	2 40.424	—0 3.47	11.382
	Star D.	27.9	36.8	45.6	4 55 36.77	3 39.021		
	Star D.	50.9	59.7	8.6	5 5 59.73	3 38.999		
		28.1	36.8	45.7	7 36.87	2 40.909	+1 37.14	10.875
	Star D.	13.9	22.6	31.6	9 22.70	3 39.372		
		51.2	0.0	8.7	10 59.97	2 41.238	1 37.27	10.919
	Star D.	52.0	0.8	9.6	12 0.80	3 39.536		
		29.1	37.9	46.9	13 37.97	2 41.300	1 37.17	11.021
	Star D.	37.1	46.0	54.7	18 45.93	3 39.884		
		35.9	44.9	53.8	19 44.87	2 39.614	0 58.94	13.055
	Star D.	55.3	4.1	13.0	21 4.13	3 39.848		
		54.2	3.0	11.8	22 3.00	2 39.940	0 58.87	12.693
	Star D.	27.9	36.7	45.8	23 36.80	3 39.975		
		26.9	35.7	44.5	24 35.70	2 39.750	0 58.90	13.010
	Star D.	54.9	3.7	12.4	26 3.67	3 39.963		
		59.0	7.6	16.4	26 7.67	3 39.694	0 4.00	0.269
	Star D.	31.2	40.0	48.9	26 40.03	3 40.087		
		35.2	44.1	52.9	26 44.07	3 39.754	0 4.04	0.333
	Star D.	2.5	11.1	20.0	27 11.20	3 40.240		
		6.4	15.3	24.2	27 15.30	3 39.799	0 4.10	+ 0.441
	Star D.	24.0	32.8	41.6	34 32.80	3 43.895		
		17.0	25.7	34.5	35 25.73	3 45.301	0 52.93	— 1.406
	Star D.	44.0	52.5	1.4	36 52.63	3 44.238		
		36.9	45.8	54.4	37 45.70	3 45.514	0 53.07	1.276
	Star D.	59.0	7.9	16.7	39 7.87	3 44.027		
		52.2	0.9	2.6	40 0.90	3 45.474	0 53.03	1.447
	Star D.	20.9	29.7	38.6	41 29.73	3 44.170		
		27.8	36.3	45.0	42 36.37	4 39.468	1 6.64	8.375
	Star D.	57.2	6.0	41.8	44 6.00	3 44.227		
		4.0	12.5	21.3	45 12.60	3 52.381	1 6.60	8.154
	Star D.	38.6	47.5	56.3	46 47.47	3 44.281		
		45.5	54.4	3.0	47 54.30	3 52.402	1 6.83	— 8.121
	Star D.	55.6	4.3	13.2	52 4.37	3 44.602		
		15.8	24.6	33.5	53 24.63	3 41.617	1 20.26	+ 2.985
		24.8	33.6	42.6	54 33.67	3 46.560	2 29.30	— 1.958
	Star D.	50.9	59.8	8.4	55 59.70	3 44.618		
		11.0	20.0	28.7	57 19.90	3 41.605	1 20.20	+ 3.013
		20.1	28.9	37.7	5 58 28.90	3 46.516	+2 29.20	— 1.898

RESULTS.

	a h. m. s.	*δ* ° ′ ″
Star D.	8 31 21.64	+20 8 44.60

	Δ *a* m. s.	Δ ρ s.	Δ *δ* ′ ″	Δ ρ ″
D. 1,	—0 3.42	.00	+ 2 53.70	+ .07
D. 2,	+1 37.19	.00	+ 2 47.69	+ .06
D. 3,	+0 58.90	.00	+ 3 18.15	+ .07
D. 4,	+0 4.05	.00	+ 0 5.34	.00
D. 5,	+0 53.01	.00	— 0 21.10	.00
D. 6,	+1 6.69	.00	— 2 6.03	— .04
D. 7,	+1 20.23	.00	+ 0 45.90	+ .02
D. 8,	+2 29.27	.00	— 0 29.31	— .01
D. 9,	+1 16.20	.00	— 0 12.48	.00
D. 10,	+2 36.72	.00	— 0 34.69	— .01

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 24	Star D. . . .	25.2	34.0	42.8	5 59 34.00	3 44.670		
		45.6	54.1	3.0	6 0 54.23	3 41.690	+1 20.23	+ 2.980
H.		54.5	3.4	12.0	2 3.30	3 46.546	2 29.30	— 1.876
	Star D. . . .	58.9	7.7	16.5	4 7.70	3 44.998		
		15.0	23.9	32.7	5 23.87	3 45.746	1 16.17	0.748
		35.6	44.1	53.2	6 44.30	3 47.290	2 36.60	2.292
	Star D. . . .	10.4	19.6	28.1	8 19.37	3 45.086		
		26.9	35.4	44.2	9 35.50	3 45.962	1 16.13	0.876
		47.5	56.0	4.8	10 56.10	3 47.333	2 36.73	2.247
	Star D. . . .	35.0	43.8	52.7	12 43.83	3 45.337		
		51.3	0.1	9.1	14 0.17	3 46.156	1 16.34	0.819
		11.9	20.7	29.4	6 15 20.67	3 47.585	+2 36.84	— 2.248
Nov. 29	Star D. . . .	58.7	7.6	16.4	4 58 7.57	3 44.430		
H.		35.2	44.0	52.8	58 44.00	2 32.867	+0 36.43	+ 24.348
	Star D. . . .	6.6	15.6	24.6	59 15.60	3 44.364		
		43.2	52.1	0.9	4 59 52.07	2 32.904	0 36.47	24.245
	Star D. . . .	13.2	22.0	30.9	5 0 22.03	3 44.452		
		49.5	58.4	7.3	0 58.40	2 32.969	0 36.37	24.268
	Star D. . . .	20.7	29.4	38.1	1 29.40	3 44.586		
		57.2	5.9	14.7	2 5.93	2 32.928	0 36.53	24.443
	Star D. . . .	33.7	42.5	51.2	2 42.47	3 44.593		
		10.0	18.8	27.7	3 18.83	2 33.054	0 36.36	+ 24.324
	Star D. . . .	4.3	13.1	22.0	16 13.13	3 44.658		
		20.6	29.4	38.1	17 29.37	3 45.555	1 16.24	— 0.897
	Star D. . . .	44.2	52.9	1.8	24 52.97	3 44.874		
		0.4	9.2	17.9	26 9.17	3 45.783	1 16.20	0.909
	Star D. . . .	44.7	53.3	2.2	28 53.40	3 45.004		
		0.8	9.7	18.5	30 9.67	3 45.909	1 16.27	— 0.905
	Star D. . . .	34.7	43.1	52.1	31 43.30	3 45.104		
		11.8	20.6	29.5	33 20.63	2 46.918	1 37.33	+ 10.971
	Star D. . . .	8.6	17.3	26.2	35 17.37	3 45.264		
		45.9	54.6	3.6	36 54.70	2 47.023	1 37.33	11.026
	Star D. . . .	47.9	56.7	5.4	37 56.67	3 45.302		
		25.2	33.9	42.7	39 33.93	2 47.065	1 37.26	11.022
	Star D. . . .	24.0	32.8	41.4	52 32.73	3 41.986		
		38.9	47.6	56.4	5 53 46.63	3 38.990	+1 13.90	+ 2.996
Dec. 3	Star F. . . .	36.2	45.0	53.8	4 20 45.00	3 37.656		
H.		14.7	23.6	32.2	21 23.50	4 45.866	+0 38.50	— 21.287
	Star F. . . .	16.2	25.1	34.0	23 25.10	3 37.744		
		54.9	3.4	12.3	24 3.53	4 .	0 38.43	
	Star F. . . .	2.7	11.4	20.3	25 11.47	3 37.788		
		41.3	50.0	58.8	25 50.03	4 45.903	0 38.56	21.192
	Star F. . . .	30.8	39.4	48.3	27 39.50	3 37.904		
		9.3	18.0	26.9	28 18.07	4 46.038	0 38.57	21.211
	Star F. . . .	24.9	33.5	42.6	32 33.67	3 38.224		
		47.5	56.2	5.0	32 56.23	4 36.529	0 22.56	11.382
	Star F. . . .	20.0	28.7	37.6	33 28.77	3 38.221		
		42.5	51.3	0.1	33 51.30	4 36.535	0 22.53	— 11.391
	Star F. . . .	44.6	53.2	2.2	39 53.33	3 38.399		
		19.9	28.7	37.3	4 40 28.63	3 35.910	+0 35.30	+ 2.489

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star D.	8 31 21.78	+20 8 43.94

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
D. 1,	+0 36.43	.00	+ 6 13.09	+ .13
D. 2,	+1 16.24	.00	— 0 13.86	.00
D. 3,	+1 37.31	.00	+ 2 48.80	+ .06
D. 4,	+1 14.90	.00	+ 0 45.95	+ .01

	α	δ
	h. m. s.	° ′ ″
Star F.	8 31 58.35	+20 14 55.38

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
F. 1,	+0 38.51	.00	— 5 25.61	— .11
F. 2,	+0 22.54	.00	— 2 54.63	— .06
F. 3,	+0 35.16	.00	+ 0 38.42	+ .01
F. 4,	+0 18.08	.00	+ 1 44.83	+ .03
F. 5,	—2 5.96	.00	— 3 5.09	— .05
F. 6,	—1 9.06	.00	+ 4 45.61	+ .09
F. 7,	+1 28.13	.00	+ 3 17.07	+ .06
F. 8,	—3 58.21	.00	— 1 1.70	— .02
F. 9,	—2 31.62	.00	+ 1 7.25	+ .02
F. 10,	+1 27.08	.00	+ 4 47.24	+ .08
F. 11,	+0 40 79	.00	+ 3 30.67	+ .06

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 3 H.	Star F.	51.0	59.8	8.5	4 40 59.77	3 38.481		
		26.1	34.8	43.5	41 34.80	3 35.960	+0 35.03	+ 2.521
	Star F.	33.2	46.4	59.4	51 46.33	3 38.737		
		51.5	4.2	17.3	52 4.33	3 31.867	0 18.00	6.870
	Star F.	30.2	43.1	56.1	52 43.13	3 38.716		
		48.6	1.3	14.3	53 1.40	3 31.857	0 18.27	6.859
	Star F.	28.7	41.6	54.5	53 41.60	3 38.819		
		46.7	59.4	12.6	4 53 59.57	3 32.042	+0 17.97	+ 6.777
		11.6	20.4	29.5	5 2 20.50	4 37.923	—2 5.87	— 11.970
		. .	17.3	26.2	3 17.27	2 33.236	—1 9.10	+ 18.579
	Star F.	. .	26.4	35.3	4 26.37	3 39.030		
		45.7	54.5	3.5	5 54.57	2 39.058	+1 28.20	+ 12.757
		29 2	38.0	46.7	7 37.97	4 38.165	—2 5.90	— 12.082
		26.0	34.9	44.0	8 34.97	2 33.355	—1 8.90	+ 18.590
	Star F.	35.0	43.9	52.7	9 43.87	3 39.160		
		3.4	12.0	20.9	11 12.10	2 39.040	+1 28.23	+ 12.905
		44.2	53.0	2.0	12 53.07	4 38.292	—2 6.06	— 12.119
		41.1	49.8	59.0	13 49.97	2 33.304	—1 9.16	+ 18.731
	Star F.	50.3	59.1	8.0	14 59.13	3 39.250		
		18.5	27.2	36.0	16 37.23	2 39.140	+1 28.10	+ 12.895
		36.4	45.2	54.0	18 45.20	4 38.346	—2 6.00	— 12.103
		33.2	42.0	51.1	19 42.10	2 33.517	—1 9.10	+ 18.588
	Star F.	42.3	51.2	0.1	20 51.20	3 39.320		
		10.4	19.2	28.0	22 19.20	2 39.265	+1 28.00	+ 12.840
		16.8	25.6	34.4	27 25.60	3 43.794	—3 58.17	— 3 924
		43.3	52.0	1.2	28 52.17	3 35.347	—2 31.60	+ 4.523
	Star F.	14.9	23.7	32.7	31 23.77	3 39.870		
		42.0	50.9	59.6	32 50.83	2 33.764	+1 27.06	+ 18.891
		31.8	40.5	49.2	34 40.50	3 44.091	—3 58.17	— 4.077
		58.2	7.1	15.9	36 7.07	3 35.707	—2 31.60	+ 4.307
	Star F.	29.9	38.7	47.4	38 38.67	3 40.014		
		57.0	5.9	14.9	40 5.93	2 34.118	+1 27.26	+ 18.681
		56.0	4.7	13.6	42 4.77	3 44.280	—3 58.30	— 4.068
		22.7	31.3	40.2	43 31.40	3 35.886	—2 31.67	+ 4.326
	Star F.	54.3	3.0	11.9	46 3.07	3 40.212		
		21.3	29.9	38.8	47 30.00	2 34.384	+1 26.93	18.613
	Star F.	38.1	47.0	55.7	51 46.93	3 40.391		
		19.0	27.6	36.5	52 27.70	2 39.510	0 40.77	13.66
	Star F.	57.4	6.2	15.1	53 6.23	3 40.458		
		38.3	47.2	56.0	53 47.17	2 39.484	0 40.94	13.759
	Star F.	12.9	21.7	30.7	54 21.77	3 40.500		
		53.7	2.6	. .	55 2.57	2 39.530	0 40.80	13.755
	Star F.	10.7	19.4	28.5	56 19.53	3 40.516		
		51.4	0.1	9.1	5 57 0.20	2 39.538	+0 40.67	+ 13.763
Dec. 24 H.		26.0	35.0	43.8	3 39 34.93	3 44.085	—2 56.57	— 5.427
	Star F.	22.9	31.4	40.2	42 31.50	3 38.658		
		50.7	59.5	8.6	43 59.60	2 38.575	+1 28.10	+ 12.868
		4.4	13.3	22.1	46 13.27	3 44.437	—2 56.73	— 5.400
	Star F.	1.1	10.0	18.9	49 10.00	3 39.037		
		29.2	38.0	46.7	50 37.97	2 38.836	+1 27.97	+ 12.986
		22.3	31.2	40.3	3 57 31.27	3 44.884	—2 56.70	— 5.473
	Star F.	19.1	28.0	36.8	4 0 27.97	3 39.411		
		47.3	56.1	5.0	1 56.13	2 39.300	+1 28.16	+ 12.896
		54.9	3.3	12.2	4 3 3.47	4 38.004	+2 35.50	— 11.670

RESULTS.

	α
	h. m. s.
Star F.	8 31 58.95

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
F. 1,	—2 56.67	.00	— 1 23.33	— .03
F. 2,	+1 28.08	.00	+ 3 18.11	+ .07
F. 3,	+2 35.41	.00	— 2 58.13	— .06
F. 4,	+1 26.87	.00	+ 4 50.65	+ .09
F. 5,	+2 7.50	.00	+ 6 5.02	+ .12

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ a	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 24	Star F. . . .	52.4	1.2	9.9	4 5 1.17	3 39.665		
		19.2	28.1	37.0	6 28.10	2 33.510	+1 26.93	+ 18.940
H.		. .	36.6	45.5	7 36.57	4 38.119	2 35.40	— 11.531
	Star F. . . .	17.3	26.0	35.0	10 26.10	3 39.835		
		44.1	52.8	1.8	11 52.90	2 33.657	1 26.80	+ 18.963
		52.7	1.5	10.1	13 1.43	4 38.398	2 35.33	— 11.640
	Star F. . . .	26.8	35.4	44.6	15 35.60	3 40.058		
		34.4	43.1	52.1	17 43.20	1 46.193	2 7.60	+ 23.781
	Star F. . . .	9.5	18.6	27.2	19 18.43	3 40.076		
		17.2	26.0	34.8	21 26.00	1 46.263	2 7.57	23.729
	Star F. . . .	52.1	1.0	9.8	24 0.97	3 40.295		
		59.5	8.3	17.1	26 8.30	1 46.267	2 7.33	23.944
	Star F. . . .	49.1	57.9	6.7	28 57.90	3 40.316		
		56.6	5.5	14.3	31 5.47	1 46.576	2 7.57	23.656
	Star F. . . .	0.2	9.0	17.7	33 8.97	3 40.572		
		7.7	16.3	25.2	35 16.40	1 46.603	+2 7.43	+ 23.885
		16.6	25.2	34.1	45 25.30	3 46.985	—3 16.40	— 5.416
		53.7	2.3	11.1	47 2.37	2 32.739	1 39.33	+ 21.615
	Star L. . . .	33.0	41.6	50.5	48 41.70	3 41.569		
		40.1	49.0	58.0	50 49.03	3 47.000	3 16.54	— 5.116
		17.6	26.3	35.1	52 26.33	2 32.910	1 39.24	+ 21.759
	Star L. . . .	26.8	5.5	14.4	54 5.57	3 41.884		
		27.3	36.1	45.0	55 36.13	3 47.268	3 16.30	— 5.306
		4.4	13.3	22.0	57 13.23	2 33.092	1 39.20	+ 21.655
	Star L. . . .	43.7	52.4	1.2	4 58 52.43	3 41.962		
		50.7	59.4	8.2	5 0 59.43	2 41.290	0 53.47	13.899
	Star L. . . .	44.0	52.9	1.8	1 52.90	3 42.404		
		12.6	21.6	30.4	3 21.53	2 41.346	0 53.34	13.904
	Star L. . . .	6.1	14.8	. .	4 14.87	3 42.465		
		32.2	40.9	49.7	5 40.93	2 41.403	—0 53.57	+ 13.799
	Star L. . . .	25.5	34.5	43.5	5 6 34.50	3 42.417		

RESULTS.

	a	δ
	h. m. s.	° ′ ″
Star L.	8 34 6.42	+20 21 58.91

	Δ a m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
L. 1,	—3 16.41	.00	— 1 20.97	— .03
L. 2,	—1 39.26	.00	+ 5 32.46	+ .10
L. 3,	—0 53.45	.00	+ 3 32.68	+ .06

OCCULTATIONS OF STARS BY THE MOON, 1864.

DATE.	OBJECTS.	PHASE.	CHRON. TIME.	CORR. CHRON.	CORRECTED TIME.	OBS'R.	REMARKS.
1864.			h. m. s.	m. s.	h. m. s.		
Jan. 23	A^1 Cancri	Immersion	10 34 7.5 sid.	— 2 22.30	10 31 45.20 sid.	H.	Emersion lost.
Feb. 13	53 Arietis	Immersion	5 52 20.8 mean.	0 58.68	5 51 22.12 mean.	H.	
14	ω^1 Tauri	Immersion	8 14 52.8 sid.	1 47.97	8 13 4.83 sid.	G.	Lumiere cendre quite distinct.
14	ω^1 Tauri	Emersion	8 59 19.6 sid.	1 47.92	8 57 31.68 sid.	G.	
16	χ Orionis	Immersion	9 50 59.3 mean.	1 3.61	9 49 55.69 mean.	H.	Very high wind.
16	χ Orionis	Emersion	11 13 38.0 mean.	1 3.61	11 12 34.39 mean.	H.	
25	g Virginis	Immersion	15 45 17.0 mean.	1 27.50	15 43 49.50 mean.	H.	Uncertain.
25	g Virginis	Emersion	16 3 32.3 mean.	1 27.50	16 2 4.80 mean.	H.	
27	28 Libræ	Immersion	17 31 35.0 mean.	— 1 36.60	17 29 58.40 mean.	H.	Uncertain.
May 20	χ Libræ	Immersion	14 33 35.3 sid.	+ 0 1.62	14 33 36.92 sid.	F.	
June 20	d Sagittarii	Immersion	16 10 2.0 sid.	0 0.24	16 10 2.24 sid.	F.	
July 23	62 Piscium	Immersion	22 53 27.5 sid.	0 5.58	22 53 33.08 sid.	H.	Uncertain.
23	62 Piscium	Emersion	23 37 46.7 sid.	0 5.58	23 37 52.28 sid.	H.	
23	δ Piscium	Immersion	23 8 25.4 sid.	0 5.58	23 8 30.98 sid.	H.	
23	δ Piscium	Emersion	0 26 50.8 sid.	0 5.58	0 26 56.38 sid.	H.	
Aug. 12	ξ Ophiuchi	Immersion	18 4 15.4 sid.	+ 0 2.26	18 4 17.66 sid.	F.	
Nov. 4	ρ Sagittarii	Immersion	8 23 24.0 mean.	— 4 27.67	8 18 56.33 mean.	F.	Dark limb distinctly visible.
5	B. A. C. 6992	Immersion	9 59 54.2 mean.	4 32.25	9 55 21.95 mean.	F.	
5	β Capricorni	Immersion	10 8 8.5 mean.	— 4 32.26	10 3 36.24 mean.	F.	Moon setting.

NOTE.—In the column headed Observer, the letters G. F. H. indicate that the observations were made by Captain Gilliss, Mr. Ferguson, or Professor Hall.

MEAN RIGHT ASCENSIONS FOR 1860.0

OF

STARS OBSERVED

WITH THE

TRANSIT INSTRUMENT,

1864.

MEAN RIGHT ASCENSIONS FOR 1860.0,

TRANSIT INSTRUMENT.

(*) — 23° 52′.

1864.	h.	m.	s.	Mag.
Nov. 5	0	0	2.43	

α ANDROMEDÆ.

Jan. 27	0	1	9.44	
28			9.53	
29			9.42	
Feb. 4			9.47	
5			9.44	
8			9.40	
9			9.49	
10			9.44	
11			9.43	
16			9.45	
19			9.41	
20			9.43	
24			9.44	
25			9.46	
Mar. 2			9.44	
3			9.44	
9			9.47	
14			(9.54)	
April 18			9.45	
21			9.47	
22			9.47	
May 4			9.40	
June 25			9.45	
July 22			9.41	
Nov. 24			9.41	

WEISSE 1267.

Nov. 10	0	1	41.78	8.0

B. A. C. 12.

Nov. 12	0	2	44.92	

(*) — 33° 33′.

Nov. 5	0	4	12.99	9.0
Dec. 6			13.05	8.0

WEISSE 71.

Dec. 24	0	4	49.10	9.0

γ PEGASI.

April 26	0	6	1.85	
May 4			1.79	
5			1.78	
July 22			1.78	
Oct. 29			1.73	
Nov. 24			1.75	

O. ARG. S. 65.

1864.	h.	m.	s.	Mag.
Nov. 5	0	6	37.53	7.1
10			37.46	7.5
Dec. 6			37.67	6.0

LACAILLE 17.

Nov. 12	0	7	48.64	

LACAILLE 26.

Oct. 29	0	9	28.54	7.5
Nov. 5			28.60	7.5
10			28.52	7.6
Dec. 6			28.64	7.3

B. A. C. 49.

Oct. 29	0	9	38.89	6.5
Nov. 5			38.92	7.0
10			38.97	7.0
Dec. 6			38.93	6.7

B. A. C. 59.

Aug. 12	0	11	16.91	5.7

LACAILLE 46.

Nov. 24	0	13	9.37	7.0

(*) — 33° 31′.

Nov. 5	0	13	14.33	8.3
Dec. 6			14.42	7.5

d PISCIUM.

July 22	0	13	23.74	
23			23.95	
Nov. 10			23.77	

LACAILLE 52.

Aug. 12	0	14	14.96	6.0
Nov. 12			15.01	6.7

O. ARG. S. 138.

Dec. 6	0	14	47.32	8.0

LACAILLE 60.

Nov. 24	0	15	45.84	

LACAILLE 62.

Aug. 12	0	15	53.80	6.5

LACAILLE 72.

Aug. 12	0	17	6.29	7.0

44 PISCIUM.

July 23	0	18	13.70	
Nov. 5			13.56	
10			13.55	

LACAILLE 81.

Nov. 12	0	18	26.26	6.0

LACAILLE 92.

Aug. 12	0	20	31.23	

LACAILLE 98.

Oct. 25	0	21	27.27	

LACAILLE 100.

Nov. 5	0	21	49.88	7.0

12 CETI.

July 23	0	22	53.73	
29			53.60	
Aug. 1			53.69	
9			53.71	
12			53.53	

SANTINI 30.

July 29	0	26	42.73	
Aug. 1			42.84	7.0

B. A. C. 135.

Nov. 12	0	26	45.21	6.0
Dec. 6			45.19	5.8

B. A. C. 136, (1st *.)

Aug. 12	0	26	51.56	6.5

B. A. C. 136, (2d *.)

Aug. 12	0	26	51.69	8.0

WEISSE 477.

Dec. 22	0	28	16.55	7.5

(*) + 2° 33′.

July 29	0	28	25.78	
Aug. 1			25.91	8.3

O. ARG. S. 284.

Nov. 5	0	28	41.29	8.0
10			41.02	8.5
24			41.04	9.0

LACAILLE 142.

Oct. 25	0	29	8.68	6.5

B. A. C. 161.

July 29	0	30	18.09	7.0

O. ARG. S. 312.

Nov. 29	0	31	7.59	8.0

LACAILLE 157.

Nov. 5	0	31	51.65	6.2

B. A. C. 167.

July 29	0	31	54.50	8.5

(*) — 18° 21′.

Nov. 12	0	32	57.98	9.5

WEISSE 556.

Dec. 24	0	33	5.98	9.0

(*) — 18° 17′.

Nov. 12	0	33	10.83	9.0

LACAILLE 169.

Oct. 25	0	33	40.16	
Nov. 29			40.23	6.0

O. Arg. S. 369.

1864.	h. m. s.	Mag.
Oct. 29	0 35 42.17	
Nov. 12	42.21	7.3
24	42.26	7.5

Weisse 616.

Dec. 24	0 36 2.62	8.0

Weisse 620.

Aug. 1	0 36 17.65	8.3

β Ceti.

July 23	0 36 33.64	
Aug. 9	33.56	
12	33.58	
Oct. 25	33.66	
Nov. 10	33.61	
29	33.64	
Dec. 6	33.61	

B. A. C. 203.

Nov. 12	0 37 48.47	

Weisse 665.

Nov. 24	0 38 50.01	8.7

Lacaille 210.

Oct. 25	0 39 48.03	

60 Piscium.

July 29	0 40 9.47	6.0
Dec. 14	9.30	

Lacaille 216.

Aug. 12	0 40 49.70	7.0

Lalande 1299.

Nov. 24	0 41 2.74	7.0

Lacaille 219.

Aug. 1	0 41 6.44	

δ Piscium.

July 23	0 41 25.28	
Dec. 7	25.34	
12	25.29	

O. Arg. S. 442.

Oct. 29	0 42 27.61	7.5
Nov. 10	27.60	7.2

Lacaille 224.

Aug. 1	0 42 39.78	6.5
Oct. 29	39.61	6.0
Nov. 10	39.66	6.0

O. Arg. S. 452.

1864.	h. m. s.	Mag.
Aug. 12	0 43 7.04	7.0

Weisse 742.

July 29	0 43 14.24	8.5
Oct. 25	14.29	8.5

Weisse 788.

July 29	0 45 27.80	

20 Ceti.

Dec. 14	0 45 51.08	

Lacaille 241, (1st *.)

Aug. 1	0 46 20.21	6.0

Lacaille 241, (2d *.)

Aug. 1	0 46 20.31	8.5

(*) + 1° 17′.

Oct. 25	0 46 48.26	9.2

B. A. C. 249.

Aug. 12	0 47 19.71	

O. Arg. S. 506.

Oct. 29	0 48 15.76	7.7
Nov. 5	15.74	7.5

Weisse 845.

Dec. 24	0 48 54.12	7.5

Lacaille 257.

Aug. 12	0 49 59.23	6.5

Weisse 871.

Oct. 25	0 50 30.11	8.0

O. Arg. S. 542.

Aug. 1	0 51 29.64	7.5
Dec. 24	29.62	8.5

O. Arg. S. 544.

Oct. 29	0 51 49.37	7.3
Nov. 5	49.51	7.0
10	49.28	7.2
12	49.46	7.5

α Sculptoris.

Dec. 12	0 51 51.40	
14	51.52	

Lalande 1737.

Oct. 25	0 53 24.02	8.5

Santini 58.

1864.	h. m. s.	Mag.
Oct. 25	0 55 24.50	6.5

ε Piscium.

Jan. 14	0 55 40.82	
July 23	40.76	
29	40.80	
Aug. 1	40.79	
12	40.83	
Nov. 10	40.73	
24	40.82	
Dec. 7	40.78	
8	40.81	
24	40.83	

O. Arg. S. 592.

Nov. 5	0 56 23.52	8.2
12	23.54	7.7

26 Ceti.

Dec. 12	0 57 36.85	

Lacaille 301.

Oct. 25	0 58 50.19	7.3

O. Arg. S. 623.

Aug. 1	0 59 11.68	7.0
Nov. 10	11.48	8.2

Weisse 1041.

Dec. 24	0 59 15.91	9.0

B. A. C. 319.

Nov. 5	0 59 52.58	6.0
12	52.51	

O. Arg. S. 635.

Oct. 29	1 0 25.11	

ε Piscium.

July 23	1 1 9.52	

Weisse 20.

Oct. 25	1 3 1.11	9.2
	1.06	

(*) + 0° 36′.

Dec. 12	1 4 9.74	

B. A. C. 418.

Nov. 10	1 16 54.39	7.0

θ Ceti.

Jan. 11	1 17 1.63	
14	1.58	
Aug. 1	1.61	
Nov. 12	1.62	

O. Arg. S. 857.

1864.	h. m. s.	Mag.
Nov. 5	1 21 26.10	7.5
10	26.05	7.2

O. Arg. S. 861.

Nov. 12	1 22 9.67	7.0

η Piscium.

Jan. 14	1 23 59.79	
Feb. 11	59.85	
June 27	59.77	
Oct. 29	59.82	
Nov. 5	59.81	
16	59.87	
24	59.84	
Dec. 7	59.79	
8	59.77	

Lacaille 435.

Nov. 12	1 25 20.74	6.8

(*) — 2° 31′.

Oct. 25	1 26 47.91	9.0

Lacaille 459.

Nov. 5	1 28 25.78	
12	25.80	7.2

Weisse 607.

Nov. 10	1 34 4.37	9.0

ν Piscium.

Oct. 25	1 34 8.92	
Nov. 5	8.93	
12	8.99	
Dec. 7	8.95	
8	8.94	

Weisse 628.

Nov. 10	1 34 56.09	8.5

ο Piscium.

Feb. 11	1 38 0.29	
Dec. 8	0.20	

O. Arg. S. 1049.

Nov. 12	1 38 44.42	9.0

O. Arg. S. 1053.

Nov. 12	1 39 3.61	7.5

O. Arg. S. 1057.

Nov. 12	1 39 15.01	7.5

O. Arg. S. 1058.

Nov. 12	1 39 17.18	9.0

O. ARG. S. 1066.

1864.		h. m. s.	Mag.
Nov.	29	1 40 31.92	7.0
Dec.	6	31.87	7.7

SANTINI 102.

Oct.	25	1 41 19.59	

WEISSE 775.

Nov	10	1 43 44 10	9.0

O. ARG. S. 1116.

Nov.	12	1 43 47.20	8.2

O. ARG. S. 1151.

Nov.	12	1 45 21.67	8.5
	29	21.58	7.5
Dec.	6	21.48	8.0

WEISSE 807.

Oct.	25	1 45 31.51	8.5

ξ PISCIUM.

Dec.	7	1 46 18.64	

β ARIETIS.

Mar.	7	1 46 54.83	
	12	54.80	
	17	54.76	
	24	54.77	
May	27	54.68	
June	27	54.69	
	28	54.73	
Dec.	8	54.75	

(*) — 27° 10′.

Jan.	14	1 49 14.63	9.0

LACAILLE 586, (1st *.)

Jan.	14	1 52 27.90	7.8
Nov.	29	27.93	7.7
Dec.	6	27.87	7.3

LACAILLE 586, (2d *.)

Jan.	14	1 52 28.37	7.3
Nov.	29	28.35	7.3
Dec.	6	28.34	7.0

O. ARG. S. 1256.

Oct.	25	1 56 12.58	

O. ARG. S. 1266.

Nov.	29	1 56 59.24	

(*) — 18° 10′.

Jan.	14	1 57 13.92	7.0
Dec.	6	13.92	7.7

α ARIETIS.

1864.		h. m. s.	Mag.
Mar.	7	1 59 17.36	
	12	17.30	
	17	17.28	
	24	17.27	
April	28	17.19	
May	3	17.33	
	4	17.25	
	5	17.26	
	27	17.27	
June	27	17.28	
	28	17.28	
Nov.	29	17.36	

O. ARG. S. 1344.

Jan.	1	2 2 36.45	
Oct.	25	36.39	

O. ARG. S. 1354.

Nov.	29	2 3 27.62	8.0

WEISSE 56.

Oct.	25	2 5 1.63	9.0

WEISSE 61.

Oct.	25	2 5 19.67	

ξ^1 CETI.

Jan.	16	2 5 35.05	

O. ARG. S. 1433.

Jan.	1	2 9 19.58	

67 CETI.

Jan.	9	2 10 0.05	
	12	0.07	
	14	0.13	
	16	0.06	
Oct.	25	0.06	
Dec.	6	0.12	

WEISSE 188.

Nov.	12	2 13 1.84	8.5

WEISSE 209.

Jan.	9	2 13 53.03	9.2
	12	53.01	9.3

(*) — 18° 19′.

Dec.	6	2 15 29.07	6.0

B. A. C. 743.

Jan.	9	2 17 8.51	6.7

LACAILLE 726.

Jan.	12	2 18 2.79	6.7
	14	2.71	6.7
Nov.	12	2.81	6.0

ξ^2 CETI.

1864.		h. m. s.	Mag.
Jan.	9	2 20 43.10	
	12	43.17	
Nov.	12	43.18	
Dec.	6	43.20	
	7	43.13	

WEISSE 363.

Nov.	12	2 22 17.92	7.5

LACAILLE 750.

Jan.	14	2 22 40.62	8.5

(*) — 27° 52′.

Jan.	9	2 23 2.35	8.3
Nov.	29	2.20	8.5

B. A. C. 774.

Jan.	12	2 23 56.10	7.0

WEISSE (2.) 587.

Oct.	25	2 24 26.79	8.2

O. ARG. S. 1630.

Jan.	9	2 26 18.31	7.0
	14	18.14	
Nov.	29	18.20	7.3

B. A. C. 790.

Jan.	12	2 27 42.84	6.7

LACAILLE 787.

Jan.	16	2 28 12.80	
Nov.	12	12.89	6.2

O. ARG. S. 1655.

Jan.	14	2 28 30.13	

O. ARG. S. 1664.

Jan.	9	2 29 32.75	8.5

LACAILLE 802.

Jan.	16	2 30 59.70	

(*) — 31° 13′.

Jan.	9	2 32 46.27	7.0
Nov.	12	46.25	7.0

O. ARG. S. 1735.

Nov.	12	2 34 3.38	

O ARG. S. 1744.

Nov.	29	2 34 40.49	7.5

WEISSE 603.

1864.		h. m. s.	Mag.
Jan.	12	2 35 14.24	9.5
	16	14.12	9.3

γ CETI.

Jan.	14	2 36 2.92	
Oct.	25	2.97	
Dec.	7	2.90	

WEISSE 615.

Jan.	12	2 36 6.89	8.0
	16	6.92	7.8
Nov.	29	6.98	7.5

LACAILLE 838.

Jan.	9	2 36 45.44	6.3

WEISSE 639.

Nov.	29	2 37 29.91	7.0

B. A. C. 854.

Jan.	16	2 38 1.24	6.7

LACAILLE 865.

Jan.	9	2 39 56.42	6.5

WEISSE 694.

Jan.	12	2 40 44.61	9.0

WEISSE 702.

Jan.	25	2 41 7.58	7.8

π ARIETIS.

Jan.	16	2 41 29.08	6.3
Nov.	12	29.16	

WEISSE 724.

Jan.	25	2 42 32.58	7.7
Nov.	29	32.62	7.2

WEISSE 728.

Jan.	12	2 42 47.27	8.0

O. ARG. S. 1838.

Jan.	9	2 43 12.73	8.0

WEISSE 746.

Jan.	12	2 43 49.48	8.3
	23	49.48	8.7

B. A. C. 894.

Jan.	9	2 46 0.64	6.0
Nov.	29	0.59	5.0

Weisse 841.

1864.		h. m. s.	Mag.
Jan.	12	2 48 31.63	7.8
	23	31.55	8.5
	25	31.53	8.1

ρ^3 Arietis.

Jan	16	2 48 32.34	6.0

O. Arg. S. 1901.

Nov.	29	2 48 43.62	6.5

O. Arg. S. 1910.

Jan.	9	2 49 41.12	8.3

4 Eridani.

Jan.	12	2 51 10.41	6.7
	25	10.26	6.8

ε Arietis.

Jan.	16	2 51 12.76	
Nov.	12	12.85	

(*) — 1° 8′.

Jan.	1	2 51 22.21	8.0

(*) — 27° 28′.

Jan.	9	2 52 38.11	8.5
	23	38.16	7.8
Nov.	29	38.10	8.5

O. Arg. S. 1968.

Jan.	9	2 54 43.12	7.7
Nov.	29	43.04	7.0

Weisse 976.

Jan.	12	2 55 49.89	
	25	49.92	7.8
Nov.	12	49.96	7.0

α Ceti.

Jan.	20	2 55 57.84	
	23	57.87	
June	14	57.86	
	28	57.86	
July	25	57.85	
	26	57.89	

τ^3 Eridani.

Jan.	16	2 56 13.12	6.0
	20	13.20	4.5

(*) + 13° 44′.

Jan.	23	2 57 41.68	8.2
	25	41.73	8.3
Nov.	12	41.87	8.0

(*) — 23° 41′.

Nov.	29	2 58 0.49	9.0

(*) + 13° 44′.

1864.		h. m. s.	Mag.
Jan.	23	2 58 4.24	8.2
	25	4.26	8.4

(*) — 34° 56′.

Jan.	1	2 58 46.57	6.5

53 Arietis.

Jan.	16	2 59 33.02	6.0

Lacaille 983.

Nov.	29	3 1 28.68	7.5

Lacaille 988.

Jan.	23	3 2 6.39	6.2

ζ Arietis.

Jan.	16	3 3 37.76	
	20	37.77	
	25	37.72	
	27	37.80	
Nov.	12	37.76	
	29	37.82	

12 Eridani.

Nov.	12	3 6 7.83	6.0

(*) — 18° 9′.

Nov.	29	3 6 43.35	7.3

Weisse 101.

Jan.	23	3 6 45.63	8.2

ζ Arietis.

Feb.	13	3 6 51.58	
	14	51.62	

(*) — 18° 9′.

Nov.	29	3 7 1.27	8.5

(*) + 12° 37′.

Jan.	23	3 7 12.87	9.0

Lacaille 1010.

Jan.	12	3 7 24.35	6.5
	27	24.37	7.4

(*) — 29° 29′.

Nov.	12	3 7 30.62	7.5

Weisse 173.

Jan.	12	3 10 39.36	7.7
	25	39.38	6.9

Lacaille 1041.

1864.		h. m. s.	Mag.
Nov.	12	3 11 9.15	6.5
	29	8.81	6.0

Lacaille 1048.

Jan.	6	3 11 50.69	7.5

Weisse (2,) 255.

Jan.	23	3 12 13.50	8.3
	27	13.57	8.4
	29	13.58	8.2

B. A. C. 1046.

Jan.	16	3 14 44.95	7.0

B. A. C. 1047.

Jan.	27	3 14 46.57	6.7

B. A. C. 1049.

Jan.	25	3 15 17.10	6.3
Nov.	12	17.25	6.0
	29	17.12	5.5

O. Arg. S. 2237.

Jan.	29	3 16 53.03	7.7
Nov.	12	53.04	6.8

Weisse 295.

Jan.	9	3 17 23.54	7.7

Lacaille 1079.

Jan.	27	3 17 46.42	7.7

O. Arg. S. 2245.

Feb.	5	3 17 53.51	7.0
Nov.	29	53.56	6.5

(*) + 5° 9′.

Jan.	25	3 19 13.09	9.2

Weisse 334.

Jan.	9	3 19 36.20	6.5
Dec.	12	36.32	

(*) — 27° 48′.

Nov.	29	3 19 40.83	

B. A. C. 1073.

Nov.	12	3 20 28.83	6.0

Lacaille 1102.

Feb.	5	3 20 53.52	7.7

B. A. C. 1061.

Jan.	12	3 21 1.66	

(*) + 5° 27′.

1864.		h. m. s.	Mag.
Jan.	27	3 22 12.01	8.8

O. Arg. S. 2311.

Jan.	23	3 23 28.49	
	26	28.67	
Nov.	12	28.66	
	29	28.47	

Lacaille 1127.

Jan.	16	3 25 53.04	6.5

ε Eridani.

Jan.	6	3 26 20.04	
	11	20.12	
	22	20.14	
	26	20.24	
	27	20.20	
Feb.	3	20.16	
	5	20.20	
Nov.	12	20.08	
	29	(19.88)	

Lacaille 1134.

Jan.	23	3 28 12.97	6.5
Nov.	29	12.69	6.0

10 Tauri.

Jan.	22	3 29 43.72	

Weisse 575.

Jan.	11	3 31 25.85	8.0

B. A. C. 1119.

Jan.	16	3 31 30.84	7.0
	23	31.04	6.7
	26	31.04	7.0
	29	30.91	7.7

Weisse 580.

Jan.	11	3 31 38.00	7.5

Lacaille 1160.

Jan.	9	3 32 32.36	7.0
Feb.	3	32.44	7.0
Nov.	29	32.26	6.5

Lacaille 1171.

Jan.	23	3 34 6.74	6.5

Lacaille 1176.

Nov.	29	3 34 38.06	7.0

(*) — 28° 23′.

Jan.	29	3 35 1.24	

Lacaille 1186.

Jan.	6	3 35 58.25	7.2

O. ARG. S. 2468.

1864.	h. m. s.	Mag.
Jan. 9	3 36 1.77	8.0
16	1.82	8.2

LACAILLE 1196.

Nov. 29	3 37 32.61	6.5

WEISSE 845.

Nov. 15	3 37 54.69	

10 PLEIADUM.

Nov. 15	3 38 8.04	

O. ARG. S. 2495.

Jan. 11	3 38 12.47	8.0
26	12.47	7.0

η TAURI.

Jan. 6	3 39 9.94	
9	10.05	
12	10.06	
29	10.16	
Mar. 12	10.17	
April 26	10.07	
June 27	10.05	
July 26	10.04	
Nov. 15	10.12	

WEISSE (2,) 878.

Jan. 16	3 39 38.09	7.8
23	38.21	8.0
Feb. 2	38.26	7.7

WEISSE (2,) 887.

Jan. 23	3 40 2.80	7.7
26	2.91	8.3

B. A. C. 1179.

Jan. 11	3 40 45.02	7.6

O. ARG. S. 2533.

Nov. 29	3 40 49.41	4.5

27 TAURI.

Jan. 9	3 40 50.59	
29	50.61	
Nov. 15	50.57	

28 TAURI.

Jan. 9	3 40 51.69	
29	51.83	
Nov. 15	51.70	

O. ARG. S. 2556.

Jan. 16	3 42 25.94	6.2
Nov. 29	25.89	6.0

B. A. C. 1195.

Jan. 29	3 42 33.26	7.4
Nov. 15	33.19	

O. ARG. S. 2571.

1864.	h. m. s.	Mag.
Feb. 3	3 43 43.61	8.2

(*) — 32° 41′.

Nov. 29	3 44 45.82	6.6

B. A. C. 1206.

Jan. 12	3 45 10.07	
16	9.95	6.5
23	9.96	6.5
26	10.00	7.2

WEISSE (2,) 1013.

Jan. 9	3 46 35.78	9.0

WEISSE (2,) 1015.

Jan. 16	3 46 37.55	
23	37.67	
26	37.76	

WEISSE (2,) 1019.

Jan. 9	3 46 52.54	8.7

O. ARG. S. 2623.

Jan. 29	3 47 54.29	8.1
Feb. 3	54.25	7.1
Nov. 29	54.16	7.0

B. A. C. 1222.

Jan. 11	3 48 30.40	8.4

(*) + 19° 41′.

Jan. 9	3 48 45.07	8.0

LACAILLE 1284.

Jan. 16	3 49 43.18	7.0

O. ARG. S. 2666.

Jan. 16	3 49 55.54	

B. A. C. 1229.

Feb. 3	3 49 56.56	
5	56.42	

LACAILLE 1291.

Nov. 15	3 50 32.13	7.0

γ ERIDANI.

Jan. 11	3 51 29.91	
23	29.96	
26	29.98	
Feb. 3	29.98	
5	29.87	
Dec. 29	29.92	

O. ARG. S. 2710.

Nov. 15	3 53 45.44	9.0

τ^9 ERIDANI.

1864.	h. m. s.	Mag.
Jan. 11	3 53 57.52	6.1

(*) — 27° 17′.

Jan. 9	3 54 37.66	8.3

B. A. C. 1250.

Jan. 23	3 55 5.58	6.0

O. ARG. S. 2741.

Nov. 29	3 55 47.90	8.2
Dec. 22	47.90	7.5

LACAILLE 1324.

Jan. 11	3 56 40.67	8.5

O. ARG. S. 2761.

Jan. 16	3 56 56.53	7.2
Feb. 3	56.64	7.4
Nov. 15	56.54	7.3

WEISSE (2,) 1261.

Jan. 16	3 58 42.22	8.2
23	42.36	8.0
26	42.44	8.5
Feb. 9	42.40	

O. ARG. S. 2796.

Jan. 9	3 59 38.43	6.0
Feb. 3	38.47	6.4

B. A. C. 1273.

Jan. 11	3 59 51.27	7.6

LACAILLE 1346.

Nov. 15	4 0 4.99	7.0
29	4.93	7.5

O. ARG. S. 2803.

Dec. 29	4 0 11.77	

WEISSE (2,) 1.

Jan. 16	4 2 1.75	9.0
23	1.77	8.7

37 ERIDANI.

Feb. 3	4 3 32.82	
Nov. 15	32.83	6.0

(*) — 28° 10′.

Dec. 29	4 3 40.57	9.0

LACAILLE 1370.

Jan. 11	4 4 5.93	
26	5.95	7.7

WEISSE (2,) 65.

1864.	h. m. s.	Mag.
Jan. 16	4 4 35.35	8.0
23	35.31	8.0

LACAILLE 1373.

Jan. 11	4 4 52.89	8.1

o^1 ERIDANI.

Feb. 3	4 5 1.95	
4	2.02	
9	1.97	
Nov. 15	2.00	
29	1.97	

(*) — 28° 18′.

Dec. 29	4 6 53.05	9.2

WEISSE (2,) 118.

Jan. 26	4 7 3.41	8.0

LALANDE 7931.

Feb. 9	4 7 4.84	8.3

WEISSE (2,) 120.

Jan. 26	4 7 6.15	8.5

(*) — 29° 10′.

Jan. 23	4 8 29.92	7.7

O. ARG. S. 2922.

Jan. 16	4 8 30.04	7.0
Feb. 4	29.95	8.0

LACAILLE 1389.

Nov. 15	4 8 33.55	7.0

(*) — 29° 10′.

Jan. 23	4 9 32.78	7.4

O. ARG. S. 2930.

Jan. 16	4 9 32.89	7.7
Feb. 4	32.83	8.5
Dec. 29	32.83	7.3

O. ARG. S. 2938.

Jan. 11	4 9 48.08	7.6
Feb. 9	47.96	8.0
Nov. 29	47.98	7.5
Dec. 22	48.04	7.3

(*) — 30° 25′.

Feb. 4	4 11 26.01	9.5

WEISSE (2,) 248.

Jan. 12	4 12 17.31	6.0
26	17.40	7.0

(*) — 27° 3′.

1864.	h. m. s.	Mag.
Dec. 29	4 13 7.76	9.3

WEISSE (2,) 270.

Feb. 9	4 13 25.39	7.5

(*) — 31° 37′.

Dec. 22	4 13 37.43	8.0

B. A. C. 1340.

Jan. 11	4 13 51.36	7.8

δ TAURI.

Feb. 14	4 14 51.92	

WEISSE (2,) 348.

Jan. 12	4 16 35.00	
16	34.91	7.0
Feb. 9	35.05	8.2

WEISSE (2,) 350.

Nov. 15	4 16 52.23	

WEISSE (2,) 363.

Jan. 26	4 17 20.16	8.7

WEISSE (2,) 376.

Jan. 12	4 17 42.88	
26	42.98	7.5
Feb. 9	42.85	8.0

O. ARG. S. 3044.

Dec. 22	4 17 48.17	9.0
29	48.06	8.7

O. ARG. S. 3061.

Nov. 15	4 19 13.65	8.0

ε TAURI.

Jan. 6	4 20 26.79	
11	26.69	
28	26.76	
Aug. 24	26.63	

O. ARG. S. 3082.

Feb. 29	4 20 35.07	8.2
Dec. 22	35.23	8.4

LACAILLE 1459.

Jan. 16	4 21 52.14	

WEISSE (2,) 512.

Jan. 22	4 23.51.16	8.0
26	51.32	7.5
Feb. 11	51.17	7.7

LACAILLE 1480.

Jan. 28	4 24 9.53	7.3

LACAILLE 1485.

Jan. 6	4 24 22.94	9.0
23	22.66	
Nov. 15	22.71	
Dec. 22	22.73	7.6

(*) — 23° 40′.

Feb. 9	4 24 53.18	8.2
Dec. 29	53.21	7.8

O. ARG. S. 3154.

Jan. 23	4 25 45.89	
Nov. 15	45.90	

LACAILLE 1509.

Feb. 9	4 27 22.90	

α TAURI.

Mar. 13	4 27 53.44	
April 18	53.40	
22	53.41	
23	53.41	
28	53.47	
29	53.45	
May 4	53.40	
6	53.41	
7	53.42	
June 6	53.37	
14	53.48	
16	53.47	
27	53.38	
28	53.47	
July 2	53.51	
7	53.45	
11	53.47	
13	53.46	
14	53.46	
Aug. 24	53.48	
Nov. 29	53.57	
Dec. 6	53.43	

(*) + 5° 53′.

Jan. 28	4 28 10.66	9.5

(*) — 26° 58′.

Dec. 22	4 28 12.69	9.0

(*) — 30° 50′.

Dec. 29	4 28 39.87	8.2

WEISSE (2,) 620.

Feb. 4	4 28 50.85	
11	50.88	7.9

(*) + 5° 32′.

Jan. 28	4 29 4.77	9.5

LACAILLE 1522.

Jan. 16	4 29 26.42	6.5
23	26.41	6.5

WEISSE (2,) 637.

Jan. 12	4 29 40.58	8.7

v^7 ERIDANI.

Nov. 15	4 30 6.49	4.0

B. A. C. 1439.

Dec. 29	4 31 24.89	6.0

(*) — 27° 31′.

Jan. 23	4 32 20.94	8.0
25	20.97	8.7
26	21.09	8.0

WEISSE (2,) 713.

Feb. 11	4 33 1.12	9.2

WEISSE (2,) 719.

Jan. 28	4 33 19.27	8.5
Feb. 11	19.27	9.0

WEISSE (2,) 720.

Feb. 11	4 33 20.29	8.5

B. A. C. 1450.

Jan. 6	4 34 17.61	6.9
Feb. 9	17.35	

54 ERIDANI.

Feb. 4	4 34 19.04	

LACAILLE 1549.

Jan. 9	4 35 6.81	7.0
23	6.77	8.0
25	6.77	8.6
26	6.86	8.0

LALANDE 8923.

Feb. 11	4 37 6.36	7.7

O. ARG. S. 3326.

Jan. 23	4 37 23.92	7.0
25	23.83	8.6
26	24.01	7.7

μ ERIDANI.

Jan. 6	4 38 30.22	
9	30.24	
12	30.26	
Feb. 4	30.18	
11	30.12	
Nov. 15	30.20	
Dec. 29	30.26	

B. A. C. 1471.

Jan. 28	4 38 37.47	7.5
Feb. 9	37.29	7.7

O. ARG. S. 3360.

Jan. 23	4 40 7.24	8.0
26	7.29	

LACAILLE 1580.

Jan. 27	4 40 17.30	7.2

B. A. C. 1482.

Jan. 28	4 40 50.41	7.0
Dec. 29	50.43	6.5

O. ARG. S. 3389.

Feb. 9	4 41 28.99	
11	29.12	7.5
Nov. 15	29.14	7.5
Dec. 22	29.09	7.8

O. ARG. N. 5259.

Feb. 11	4 44 15.70	7.0

B. A. C. 1496.

Feb. 4	4 44 37.61	

O. ARG. S. 3437.

Jan. 16	4 44 53.00	
23	52.93	7.0
26	52.96	7.2
27	52.94	7.1
Feb. 9	52.80	7.0

(*) + 22° 33′.

Jan. 28	4 45 6.19	9.2

LACAILLE 1615.

Dec. 29	4 45 21.84	7.0

WEISSE (2,) 1012.

Jan. 28	4 45 27.10	9.0

B. A. C. 1510.

Feb. 4	4 47 3.70	

(*) — 30° 53′.

Jan. 16	4 47 14.30	7.0
23	14.29	7.5
26	14.34	7.3

WEISSE 1028.

Dec. 29	4 47 19.69	7.5

ι AURIGÆ.

Jan. 27	4 47 52.82	

O. ARG. S. 3494.

Jan. 28	4 49 9.41	8.0
Feb. 9	9.31	
11	9.46	7.3

O. ARG. S. 3506.

1864.		h. m. s.	Mag.
Jan.	16 . .	4 49 46.16	7.0
	23 . .	46.16	7.5
	26 . .	46.18	7.0

O. ARG. S. 3513.

Jan.	28 . .	4 50 14.06	8.2
Feb.	11 . .	14.16	7.6

O. ARG. S. 3516.

Jan.	16 . .	4 50 33.98	7.2

LACAILLE 1659, (1st *.)

Jan.	27 . .	4 50 39.41	7.8

LACAILLE 1659, (2d *.)

Jan.	27 . .	4 50 44.62	7.6

(*) — 29° 5′.

Jan.	28 . .	4 53 2.51	7.3
Feb.	9 . .	2.44	6.7
	11 . .	2.65	7.2

(*) — 28° 38′.

Jan.	16 . .	4 53 36.43	7.6
	23 . .	36.36	6.5
	26 . .	36.49	7.0

LACAILLE 1678.

Jan.	27 . .	4 54 26.45	7.0

O. ARG. S. 3576.

Jan.	28 . .	4 54 28.93	8.3

(*) + 5° 55′.

Dec.	29 . .	4 54 38.02	9.0

ι TAURI.

Feb.	16 . .	4 54 43.74	

(*) — 31° 32′.

Jan.	16 . .	4 56 1.42	7.2
Feb.	11 . .	1.41	8.4

(*) — 31° 32′.

Jan.	16 . .	4 56 12.87	8.5

11 ORIONIS.

Jan.	2 . .	4 56 34.25	
	26 . .	34.31	
Feb.	29 . .	34.32	

LACAILLE 1693.

Jan.	23 . .	4 56 47.58	6.5
	28 . .	47.56	7.5
Feb.	11 . .	47.53	7.0

LACAILLE 1704.

1864.		h. m. s.	Mag.
Nov.	15 . .	4 58 5.19	

O. ARG. S. 3630.

Jan.	28 . .	4 58 21.04	8.5
Feb.	9 . .	20.91	8.4
Dec.	22 . .	21.05	8.8

m TAURI.

Feb.	16 . .	4 59 10.63	

γ^1 CŒLI.

Jan.	27 . .	4 59 22.40	5.7

ε LEPORIS.

Jan.	2 . .	4 59 32.17	
	16 . .	32.12	
	23 . .	32.15	
Dec.	29 . .	32.19	

B. A. C. 1565.

Feb.	4 . .	4 59 33.94	

O. ARG. S. 3670.

Feb.	11 . .	5 1 0.65	9.0

O. ARG. S. 3680.

Dec.	22 . .	5 1 28.02	9.5

15 ORIONIS.

Nov.	15 . .	5 1 41.39	

O. ARG. S. 3691.

Jan.	25 . .	5 2 9.20	8.7
	26 . .	9.27	8.0
Feb.	9 . .	9.13	7.7

WEISSE (2,) 49.

Jan.	16 . .	5 3 39.10	8.7
Feb.	11 . .	39.24	8.6

O. ARG. S. 3717.

Jan.	27 . .	5 3 40.55	8.6

O. ARG. S. 3720.

Jan.	23 . .	5 3 43.98	8.5
	28 . .	43.96	9.0

(*) — 25° 34′.

Dec.	22 . .	5 4 33.62	9.3

(*) — 25° 24′.

Jan.	27 . .	5 4 55.37	9.4

LACAILLE 1738.

1864.		h. m. s.	Mag.
Feb.	12 . .	5 5 3.34	7.2

WEISSE (2,) 111.

Jan.	16 . .	5 5 17.47	7.5
Feb.	4 . .	17.57	8.0
	11 . .	17.50	7.5

B. A. C. 1615.

Jan.	23 . .	5 6 6.33	7.0
	28 . .	6.36	7.0

WEISSE 136.

Jan.	25 . .	5 6 49.58	

LACAILLE 1753.

Feb.	16 . .	5 7 15.63	6.5

(*) — 27° 19′.

Feb.	16 . .	5 7 19.64	6.8

β ORIONIS.

Jan.	25 . .	5 7 48.66	
Feb.	12 . .	48.64	
Mar.	13 . .	48.65	
April	28 . .	48.62	
	29 . .	48.76	
May	4 . .	48.65	
	5 . .	48.80	
	6 . .	48.70	
	7 . .	48.61	
	28 . .	48.70	
June	30 . .	48.70	
July	3 . .	48.61	
	7 . .	48.69	
	8 . .	48.68	
	13 . .	48.65	
	14 . .	48.68	
	18 . .	48.68	
	28 . .	48.55	

O. ARG. S. 3790.

Nov.	15 . .	5 8 37.84	

LACAILLE 1770.

Jan.	16 . .	5 9 39.76	6.3
	23 . .	39.74	6.5
	27 . .	39.91	7.5

LACAILLE 1774.

Jan.	28 . .	5 9 55.39	7.5
Feb.	9 . .	55.23	7.0

O. ARG. S. 3812.

Feb.	11 . .	5 10 10.27	9.2

n TAURI.

Feb.	16 . .	5 10 51.96	6.0

O. ARG. S. 3830.

1864.		h. m. s.	Mag.
Jan.	25 . .	5 11 40.12	7.8
	27 . .	40.29	7.7
Feb.	11 . .	40.09	8.0
Nov.	15 . .	40.16	7.3
Dec.	29 . .	40.23	7.0

(*) — 25° 23′.

Jan.	16 . .	5 12 32.47	7.0
	23 . .	32.46	6.7

(*) — 25° 25′.

Jan.	16 . .	5 12 33.42	8.0
	23 . .	33.38	7.5

O. ARG. S. 3862.

Jan.	28 . .	5 13 17.38	8.3
Feb.	9 . .	17.26	

O. ARG. S. 3866.

Jan.	25 . .	5 13 48.88	5.8
	27 . .	49.02	7.2
Feb.	11 . .	48.86	7.2

O. ARG. S. 3884.

Jan.	16 . .	5 15 17.55	7.0
	23 . .	17.35	7.3
	28 . .	17.43	7.3
Feb.	9 . .	17.31	7.2

(*) — 20° 11′.

Nov.	15 . .	5 16 33.71	9.0
Dec.	22 . .	33.84	9.0

β TAURI.

Jan.	27 . .	5 17 26.59	
Feb.	4 . .	26.62	
	9 . .	26.63	
	12 . .	26.64	
	16 . .	26.56	
April	21 . .	26.61	
	23 . .	26.67	
	28 . .	26.66	
	29 . .	26.65	
May	4 . .	26.60	
	5 . .	26.60	
June	28 . .	26.63	
	30 . .	26.56	
July	7 . .	26.65	
	13 . .	26.63	
	15 . .	26.66	
	18 . .	26.63	
	28 . .	26.59	
Aug.	24 . .	26.70	

WEISSE (2,) 478.

Dec.	29 . .	5 17 30.45	

LACAILLE 1827.

Jan.	23 . .	5 17 57.35	7.3
	28 . .	57.49	7.0

115 TAURI.

Nov.	15 . .	5 19 0.19	

o TAURI.

1864.	h. m. s.	Mag.
Feb. 16 . .	5 19 13.62	5.8

B. A. C. 1708.

Jan. 16 . .	5 20 33.59	6.5

O. ARG. N. 5930.

Feb. 11 . .	5 22 55.16	7.5

(*) — 29° 27′.

Jan. 23 . .	5 22 58.80	8.5
Feb. 9 . .	58.72	8.5

(*) — 29° 27′.

Jan. 23 . .	5 23 4.75	8.5
Feb. 9 . .	4.76	8.3

(*) — 28° 31′.

Feb. 9 . .	5 24 42.85	8.0
Nov. 15 . .	42.86	8.3

δ ORIONIS.

Feb. 3 . .	5 24 51.28	
11 . .	51.34	
12 . .	51.33	
April 23 . .	51.29	
May 4 . .	51.32	
5 . .	51.41	
6 . .	51.35	
July 7 . .	51.30	
13 . .	51.36	
Aug. 24 . .	51.33	

WEISSE 603.

Feb. 3 . .	5 24 51.26	
12 . .	51.35	

(*) — 28° 26′.

Nov. 15 . .	5 25 32.17	7.7

α LEPORIS.

Jan. 6 . .	5 26 33.48	
28 . .	33.39	
29 . .	33.37	
Feb. 4 . .	33.35	

(*) + 5° 6′.

Dec. 29 . .	5 27 5.42	8.5

O. ARG. S. 4060.

Jan. 23 . .	5 27 19.50	6.5
Feb. 9 . .	19.47	7.0
16 . .	19.49	7.0

(*) + 5° 5′.

Dec. 29 . .	5 28 3.03	9.0

ε ORIONIS.

1864.	h. m. s.	Mag.
Jan. 6 . .	5 29 6.74	
9 . .	6.69	
16 . .	6.67	
26 . .	6.50	
28 . .	6.63	
29 . .	6.61	
Feb. 3 . .	6.65	
8 . .	6.55	
April 23 . .	6.58	
May 5 . .	6.75	
6 . .	6.70	
July 13 . .	6.58	
Aug. 25 . .	6.64	

O. ARG. N. 6031.

Jan. 12 . .	5 29 15.54	8.5
Feb. 11 . .	15.54	8.3

ζ TAURI.

Nov. 15 . .	5 29 16.73	

(*) + 5° 3′.

Dec. 29 . .	5 29 18.83	4.0

(*) — 1° 20′.

Feb. 3 . .	5 29 25.57	

O. ARG. S. 4102.

Feb. 9 . .	5 29 49.43	8.3

O. ARG. N. 6052.

Jan. 12 . .	5 30 22.85	9.0
Feb. 11 . .	22.82	8.3

WEISSE 776.

Jan. 3 . .	5 31 7.54	6.7
Dec. 22 . .	7.49	7.0

O. ARG. S. 4136.

Feb. 16 . .	5 31 44.75	6.5

LACAILLE 1916.

Jan. 27 . .	5 32 13.31	7.8
Feb. 9 . .	13.12	

(*) — 29° 2′.

Feb. 8 . .	5 32 23.53	7.5
Nov. 15 . .	23.42	7.0

α COLUMBÆ.

Jan. 16 . .	5 34 34.93	
23 . .	34.79	
28 . .	34.83	

(*) — 25° 33′.

Jan. 27 . .	5 35 21.39	8.4
Feb. 9 . .	21.15	8.0

O. ARG. S. 4213.

1864.	h. m. s.	Mag.
Feb. 8 . .	5 35 28.77	6.9

(*) — 26° 25′.

Nov. 15 . .	5 35 40.41	7.5

O. ARG. N. 6159.

Jan. 12 . .	5 35 56.43	7.3
26 .	57.04	
Feb. 11 . .	56.80	7.0

O. ARG. S. 4237.

Jan. 16 . .	5 36 48.01	7.3
28 . .	47.90	8.2
Feb. 9 . .	47.77	7.5
16 . .	47.88	8.0

O. ARG. S. 4263.

Jan. 16 . .	5 38 39.58	7.6
23 . .	39.54	7.3
27 . .	39.68	8.2

(*) — 30° 41′.

Feb. 8 . .	5 38 43.90	8.7
Nov. 15 . .	43.77	7.5

O. ARG. S. 4294.

Jan. 16 . .	5 39 57.57	7.3
23 . .	57.56	7.3

LACAILLE 1977.

Jan. 28 . .	5 39 58.27	7.5
Feb. 9 . .	58.13	6.0

(*) + 25° 46′.

Jan. 27 . .	5 41 22.08	9.7
Feb. 11 . .	22.11	9.5

LACAILLE 1990.

Jan. 28 . .	5 41 36.39	7.0
Feb. 3 . .	36.53	6.0
8 . .	36.45	6.5

O. ARG. N. 6250.

Jan. 26 . .	5 42 19.70	9.0

(* 94) W. + 25° 43′.

Jan. 16 . .	5 43 41.86	9.5
Feb. 11 . .	41.82	9.0

O. ARG. S. 4355.

Jan. 23 . .	5 43 58.58	7.7
28 . .	58.53	8.6
Feb. 9 . .	58.39	7.5
Dec. 22 . .	58.50	

B. A. C. 1860.

Feb. 8 . .	5 44 2.69	6.6

O. ARG. S. 4395.

1864.	h. m. s.	Mag.
Feb. 3 . .	5 46 26.48	6.8
9 . .	26.44	6.5

LACAILLE 2033.

Jan. 9 . .	5 46 35.01	6.2
16 . .	35.08	6.5
28 . .	34.96	6.7
Feb. 16 . .	34.97	6.3

α ORIONIS.

Jan. 12 . .	5 47 35.56	
23 . .	35.68	
27 . .	35.63	
Feb. 8 . .	35.57	
10 . .	35.68	
27 . .	35.54	
Mar. 2 . .	35.64	
April 27 . .	35.60	
28 . .	35.59	
May 6 . .	35.64	
7 . .	35.66	
July 3 . .	35.60	
4 . .	35.56	
8 . .	35.57	
11 . .	35.60	
15 . .	35.53	
18 . .	35.53	
19 . .	35.58	
25 . .	35.56	
Aug. 2 . .	35.65	
Nov. 29 . .	35.64	

(*) — 28° 56′.

Feb. 9 . .	5 49 9.36	9.0

O. ARG. N. 6362.

Feb. 11 . .	5 49 36.02	7.8

O. ARG. S. 4453.

Jan. 28 . .	5 50 7.90	8.0
Feb. 3 . .	8.00	7.2
9 . .	7.89	7.0
16 . .	7.90	7.8

(*) — 29° 55′.

Jan. 27 . .	5 50 14.05	7.4
Feb. 10 . .	14.16	7.0

(*) — 29° 58′.

Jan. 27 . .	5 50 15.77	7.7

O. ARG. N. 6390.

Jan. 12 . .	5 51 25.24	9.0
26 . .	25.70	8.8

O. ARG. S. 4474.

Jan. 23 . .	5 51 31.39	7.5
Mar. 3 . .	31.54	8.0

O. ARG. S. 4481.

Jan. 28 . .	5 51 46.37	8.7
Feb. 9 . .	46.27	8.0

O. ARG. S. 4499.

1864.		h. m. s.	Mag.
Jan.	16	5 52 48.76	7.3
	25	48.64	7.4
Feb.	3	48.72	7.5

LACAILLE 2085.

Nov.	15	5 52 50.65	7.0

LACAILLE 2090.

Nov.	15	5 53 54.38	7.3

O. ARG. S. 4527.

Jan.	25	5 54 37.10	7.2
	28	37.19	7.5
Feb.	3	37.22	7.5
	11	37.27	7.3
Mar.	3	37.22	8.0

O. ARG. S. 4534.

Jan.	9	5 54 57.37	8.0
	16	57.51	7.5
	23	57.32	7.5
Feb.	8	57.44	8.0
	9	57.30	8.0

χ^3 ORIONIS.

Feb.	16	5 55 10.06	

(*) + 73° 33′.

Jan.	26	5 56 30.23	9.5

B. A. C. 1946.

Feb.	8	5 57 37.12	5.7

(* 116) W. + 73° 35′.

Jan.	12	5 57 45.28	9.2
	26	45.72	
Feb.	11	45.38	9.0

(*) — 28° 35′.

Jan.	9	5 59 8.37	9.0
	23	8.41	8.0
	28	8.50	9.0
Mar.	3	8.53	9.0

(*) — 28° 35′.

Jan.	9	5 59 10.98	7.0
	23	10.95	7.3
	28	11.02	8.2
Mar.	3	11.00	8.5

ν ORIONIS.

Jan.	16	5 59 34.73	
	25	34.64	
Feb.	3	34.82	
	9	34.76	
	10	34.65	
	16	34.75	
Nov.	15	34.73	

LACAILLE 2126.

Feb.	8	5 59 59.33	6.8

O. ARG. S. 4680.

1864.		h. m. s.	Mag.
Jan.	26	6 2 6.12	7.7
Feb.	9	6.14	8.0

LALANDE 11684.

Jan.	12	6 2 11.54	7.5

LALANDE 11714.

Jan.	12	6 3 3.23	8.5

LACAILLE 2163.

Jan.	9	6 4 12.08	7.0
	23	12.10	6.7

B. A. C. 1995.

Jan.	25	6 5 0.36	5.8

B. A. C. 1997.

Feb.	8	6 5 36.58	6.9

LACAILLE 2177.

Jan.	25	6 5 53.21	7.3

η GEMINORUM.

Mar.	15	6 6 25.51	
Nov.	15	25.60	

LACAILLE 2180.

Jan.	9	6 6 29.02	6.5

WEISSE (2,) 169.

Jan.	12	6 7 26.93	7.5

LACAILLE 2189.

Jan.	23	6 7 30.20	6.5
Feb.	9	30.16	7.0

LACAILLE 2190.

Feb.	8	6 7 58.22	7.2

O. ARG. N. 6682.

Jan.	26	6 8 10.26	7.7

O. ARG. S. 4851.

Feb.	9	6 8 59.22	8.5

O. ARG. S. 4861.

Feb.	9	6 9 26.65	8.0

(*) — 28° 10′.

Feb.	11	6 9 30.49	9.0

LACAILLE 2208.

Feb.	8	6 11 25.80	7.5

(*) — 28° 57′.

1864.		h. m. s.	Mag.
Feb.	11	6 12.46.37	9.5

O. ARG. S. 4961.

Feb.	11	6 13 43.18	7.3

μ GEMINORUM.

Jan.	25	6 14 29.52	
Aug.	25	29.44	

DORPAT 900, (1st *.)

Feb.	11	6 16 21.08	6.0

DORPAT 900, (2d *.)

Feb.	11	6 16 21.36	7.5

O. ARG. S. 5082.

Jan.	25	6 19 17.48	5.8

DORPAT 917, (1st *.)

Feb.	11	6 22 1.91	

DORPAT 917, (2d *.)

Feb.	11	6 22 2.20	

B. A. C. 2127.

Jan.	27	6 24 13.49	6.9

(*) — 29° 56′.

Jan.	28	6 25 13.64	9.0

O. ARG. S. 5251.

Feb.	3	6 26 30.35	7.2
	12	30.08	7.6

LALANDE 12614.

Jan.	27	6 27 46.70	7.6
Feb.	3	46.57	6.7

O. ARG. S. 5289.

Jan.	28	6 28 1.13	7.0

γ GEMINORUM.

Jan.	9	6 29 37.46	
	12	37.45	
	26	37.39	
	27	37.41	
Feb.	3	37.41	
	4	37.46	
	8	37.33	
	11	37.44	
	12	37.36	
	18	37.48	
April	27	37 41	
May	6	37.45	
Aug.	25	37.44	
Nov.	15	37.46	
Dec.	22	37.48	

LACAILLE 2355.

1864.		h. m. s.	Mag.
Jan.	28	6 30 40.92	7.5

LACAILLE 2366.

Feb.	8	6 31 34.33	8.7
	12	34.33	7.7

O. ARG. S. 5410.

Feb.	9	6 32 26.25	8.0

O. ARG. S. 5415.

Jan.	27	6 32 33.18	7.5
Feb.	11	33.19	6.8

(*) — 27° 38′.

Jan.	28	6 33 15.76	8.5

51 CEPHEI.

Jan.	9	6 33 39.33	
	12	39.14	
	26	40.17	
	28	39.50	
Mar.	3	38.98	
	12	38.51	
May	22, S. P.	37.34	
June	21, S. P.	39.10	
July	2, S. P.	37.85	
	4, S. P.	38.77	
	11, S. P.	39.08	
	13, S. P.	40.42	
Aug.	3, S. P.	37.71	
	12, S. P.	39.47	
Nov.	15	39.22	

O. ARG. S. 5450.

Jan.	27	6 33 46.80	7.6
Feb.	11	46.82	6.6

LACAILLE 2388.

Feb.	3	6 34 20.90	5.9
	4	20.96	6.0
	12	21.00	6.5

ϵ GEMINORUM.

Mar.	15	6 35 19.05	

O. ARG. S. 5519.

Feb.	9	6 36 4.25	7.5

(*) — 23° 19′.

Feb.	8	6 36 36.38	7.7

(*) — 31° 31′.

Feb.	3	6 37 2.27	7.7
	4	2.24	

O. ARG. S. 5574.

Feb.	12	6 37 38.73	7.7

α Canis Majoris.

1864.	h. m. s.	Mag.
Jan. 22	6 38 58.69	
25	58.56	
27	58.80	
Feb. 4	58.67	
11	58.63	
Mar. 15	58.69	
April 27	58.58	
May 6	58.79	
28	58.63	
June 6	58.58	
7	58.66	
13	58.62	
16	58.68	
17	58.58	
July 8	(58.50)	
11	58.54	
14	58.70	
19	58.67	
25	58.66	
28	58.68	
Aug. 4	58.65	
9	58.61	
11	58.54	
12	58.60	

O. Arg. S. 5615.

Feb	3	6 39 16.74	7.1
	8	16.67	7.3

O Arg. S. 5654.

Jan.	28	6 40 28.52	8.2

O Arg. S 5665.

Feb	12	6 40 50.13	8.2

O Arg. S. 5704.

Feb	8	6 42 19.84	9.2
	11	19.77	8.5
	16	19.74	8.0

O. Arg. S. 5732.

Feb.	18	6 43 24.97	7.0

(*) — 28° 34′.

Feb.	12	6 43 49.09	7.0

O. Arg. S. 5745.

Jan.	28	6 43 56.23	
Feb.	11	56.17	7.5
	12	56.23	6.5

(*) — 32° 22′.

Jan.	27	6 44 18.17	

B. A. C. 2244.

Feb.	8	6 44 30.18	7.6

κ Canis Majoris.

Jan.	27	6 44 36.63	

Lacaille 2473.

Feb.	3	6 44 54.79	6.9

B. A. C. 2251.

1864.	h. m. s.	Mag.
Mar. 15	6 45 5.79	6.8

(*) — 31° 33′.

Mar	15	6 45 8.84	8.0

(*) — 28° 32′.

Feb	11	6 45 28.41	8.2

O. Arg. S. 5790.

Feb.	8	6 45 34.62	7.9

(*) — 30° 15′.

Jan.	28	6 46 46.34	
Feb.	16	46.38	7.7

O. Arg. S. 5863.

Feb.	18	6 47 59.68	6.5
Mar.	3	59.72	7.0

Lacaille 2519.

Jan.	27	6 49 2.75	
	28	2.81	7.7
Feb.	8	2.71	6.9
	11	2.73	7.0
Mar.	15	2.63	7.0

O. Arg. S. 5906.

Feb.	12	6 49 45.38	7.6
	16	45.22	7.0

Lacaille 2528.

Jan.	27	6 50 37.15	
	28	37.13	7.5
Feb.	8	37.09	7.2
	11	37.11	6.8

O. Arg. S. 5961.

Jan.	28	6 52 6.85	7.0

Lacaille 2544.

Feb	18	6 52 45.62	7.5

Lacaille 2549.

Feb.	11	6 52 45.90	6.8
Mar.	3	45.91	7.2
	15	45.81	7.0

ε Canis Majoris.

Feb.	9	6 53 7.53	
	12	7.47	
	16	7.58	

Lacaille 2553.

Mar.	15	6 53 22.19	

O. Arg. S. 6004.

1864.	h. m. s.	Mag.
Feb. 12	6 53 34.87	

Lacaille 2566.

Jan.	28	6 54 48.39	6.5
Feb.	11	48.45	7.0
Mar.	3	48.45	7.0

(*) — 30° 52′.

Jan.	28	6 54 52.75	8.0
Feb.	11	52.67	8.3
Mar.	3	52.77	8.0

Weisse (2,) 1675.

Feb.	18	6 55 47.27	8.5

Lacaille 2579.

Mar.	15	6 55 47.42	7.1

ζ Geminorum.

Jan.	22	6 55 48.31	
Feb.	18	48.18	4.0

44 Geminorum.

Dec.	22	6 56 52.53	

γ Canis Majoris.

Jan.	27	6 57 25.44	
	28	25.43	
Mar.	3	25.46	
	12	25.38	

Lacaille 2610.

Mar.	15	7 0 36.53	6.5

O. Arg. S. 6232.

Mar.	12	7 1 19.60	7.2

τ Geminorum.

Jan.	22	7 2 13.52	

(*) — 31° 11′.

Jan.	27	7 2 38.43	8.4

Lacaille 2637.

Jan.	27	7 2 49.51	7.7

O. Arg. N. 7623.

Feb.	11	7 3 53.16	7.0

Lacaille 2643.

Mar.	12	7 4 28.13	7.8

B. A. C. 2371.

Jan.	27	7 6 40.42	6.9

O. Arg. N. 7681.

1864.	h. m. s.	Mag.
Feb. 11	7 7 9.86	8.8

(*) — 27° 8′.

Mar.	12	7 7 27.11	7.5

O. Arg. S. 6431.

Mar.	12	7 7 58.00	6.3

(*) — 30° 25′.

Jan.	27	7 9 12.37	7.4

O. Arg. S. 6489.

Mar.	12	7 9 44.37	

B. A. C. 2399.

Jan.	27	7 9 56.05	6.7

λ Geminorum.

Feb.	18	7 10 2.69	

B. A. C. 2320, S. P.

Aug.	31	7 10 8.49	6.5

O. Arg. N. 7755.

Feb.	11	7 11 9.22	7.6

δ Geminorum.

Jan.	22	7 11 45.57	
Mar.	15	45.56	

(*) — 29° 37′.

Mar.	3	7 12 48.01	8.0
	12	47.95	8.3

(*) — 30° 36′.

Jan.	28	7 12 48.24	8.3

B. A. C. 2428.

Jan.	27	7 14 1.08	7.0

Lacaille 2741.

Mar.	2	7 14 50.94	6.6

Lacaille 2753.

Mar.	3	7 15 31.81	7.0

B. A. C. 2443.

Mar.	3	7 16 50.06	7.0

(*) — 32° 18′.

Mar.	3	7 16 58.35	8.5

(*) — 31° 1′.

1864.	h. m. s.	Mag.
Feb. 11	7 17 14.87	7.8
12	15.03	8.3
Mar. 12	14.90	8.3

WEISSE 338.

Mar. 15	7 17 23.56	9.0
17	23.46	9.0

O. ARG. S. 6734.

Jan. 27	7 17 50.71	5.8
28	50.75	6.0

(*) — 31° 3′.

Feb. 12	7 18 10.68	7.0

O. ARG. S. 6748.

Mar. 2	7 18 20.32	6.8

η CANIS MAJORIS.

Mar. 2	7 18 33.52	2.5

(*) — 30° 19′.

Jan. 27	7 19 50.98	8.5

O. ARG. S. 6810.

Mar. 3	7 20 22.91	7.5
17	22.89	7.3

6 CANIS MINORIS.

Feb. 18	7 21 59.81	

O. ARG. S. 6858.

Feb. 11	7 22 12.99	7.0
Mar. 12	12.94	7.3

LACAILLE 2813.

Jan. 28	7 22 19.32	7.0
Mar. 3	19.33	7.0
17	19.18	6.8

LALANDE 14620.

Feb. 18	7 23 43.99	5.5

(*) — 20° 24′.

Jan. 27	7 23 45.93	7.8

O. ARG. S. 6907.

Jan. 28	7 23 46.87	8.5

O. ARG. S. 6941.

1864.	h. m. s.	Mag.
Feb. 11	7 24 50.43	8.4
Mar. 12	50.45	8.2

O. ARG. S. 6946.

Feb. 11	7 24 54.44	8.8
Mar. 12	54.45	8.4

O. ARG. S. 6948.

Mar. 3	7 25 8.10	8.0

O. ARG. S. 6949.

Mar. 3	7 25 8.32	8.3

68 GEMINORUM.

Feb. 19	7 25 36.88	
Mar. 17	36.82	

a^1 GEMINORUM.

Jan. 27	7 25 39.18	
Feb. 8	39.25	
12	39.24	
Mar. 2	39.27	
May 6	39.13	

a^2 GEMINORUM.

Jan. 27	7 25 39.71	
Feb. 8	39.78	
12	39.76	
Mar. 2	39.77	
May 6	39.60	
June 6	39.78	
9	39.75	
15	39.72	
Aug. 2	39.76	
16	39.70	
25	39.74	
28	39.75	

LACAILLE 2852.

Mar. 17	7 28 8.10	7.2

LACAILLE 2859.

Mar. 17	7 28 56.34	6.5

O. ARG. S. 7063.

Jan. 28	7 29 13.96	8.0
Feb. 11	14.01	7.5

(*) — 29° 40′.

Mar. 3	7 30 2.80	8.5
12	2.85	9.0

(*) — 29° 44′.

Mar. 3	7 30 13.48	8.5
12	13.47	8.8

LACAILLE 2870.

1864.	h. m. s.	Mag.
Feb. 8	7 30 42.44	

(*) — 30° 59′.

Feb. 11	7 31 7.16	8.0

O. ARG. S. 7131.

Mar. 2	7 31 23.10	7.3

(*) — 29° 48′.

Mar. 12	7 31 51.32	8.3

α CANIS MINORIS.

Jan. 27	7 31 58.36	
28	58.23	
Feb. 18	58.35	
Mar. 15	58.35	
17	58.29	
May 6	58.39	
June 6	58.33	
7	58.41	
9	58.43	
15	58.33	
17	58.37	
21	58.38	
25	58.32	
28	58.31	
Aug. 2	58.32	
4	58.32	
9	58.36	
11	58.31	
12	58.34	
16	58.29	
25	58.35	
28	58.28	
29	58.33	

B. A. C. 2526.

Jan. 28	7 32 40.61	6.0

(*) — 29° 52′.

Mar. 2	7 33 19.09	9.0

O. ARG. S. 7224.

Jan. 28	7 34 32.76	7.5
Feb. 11	32.68	7.0
Mar. 2	32.85	7.4

O. ARG. S. 7239.

Feb. 8	7 35 3.00	7.5
Mar. 3	3.04	6.7
12	3.05	7.0

O. ARG. S. 7286.

Jan. 27	7 36 34.65	
28	34.69	7.0
Mar. 12	34.66	

O. ARG. S. 7289.

Feb. 8	7 36 38.81	9.1

β GEMINORUM.

1864.	h. m. s.	Mag.
Feb. 11	7 36 44 71	
18	44.70	
Mar. 15	44.71	
17	44.74	
May 6	44.60	
June 13	44.65	
15	44.70	
25	44.67	
27	44.71	
Aug. 2	44.66	
4	44.68	
9	44.68	
11	44.73	
12	44.72	
16	44.69	
25	44.75	
28	44.72	
29	44.67	

LACAILLE 2941.

Mar. 3	7 38 43.21	7.0

O. ARG. S. 7376.

Jan. 27	7 39 35.34	
28	35.34	8.0
Feb. 11	35.30	7.4

LACAILLE 2952.

Feb. 8	7 39 57.09	7.3

(*) — 23° 54′.

Mar. 2	7 40 3.17	7.6

(*) — 23° 46′.

Mar. 2	7 40 5.98	6.0

B. A. C. 2581.

Mar. 17	7 40 21.72	6.5

(*) — 27° 16′.

Mar. 12	7 40 32.01	9.3

O. ARG. S. 7444.

Jan. 27	7 42 3.62	

O. ARG. S. 7443.

Feb. 8	7 42 4.18	9.5

O. ARG. S. 7445.

Mar. 12	7 42 4.69	9.0

O. ARG. S. 7464.

Feb. 11	7 42 48.41	8.0
Mar. 3	48.37	7.7
17	48.30	8.8

O. ARG. S. 7465.

1864.	h. m. s.	Mag.
Jan. 28	7 42 50.06	8.0
Feb. 11	50.13	8.0
Mar. 3	50.11	7.5
17	50.05	8.2

O. ARG. S. 7470.

Jan. 27	7 43 5.37	

O. ARG. S. 7473.

Mar. 12	7 43 11.91	7.8

ϕ GEMINORUM.

Jan. 22	7 44 55.42	
Feb. 11	55.46	
Mar. 2	55.46	

LACAILLE 3012.

Jan. 23	7 45 5.30	6.0

(*) — 26° 4′.

Mar. 12	7 46 32.09	9.0
17	32.06	9.0

(*) — 26° 4′.

Feb. 8	7 47 16.25	7.6
Mar. 3	16.31	7.0
12	16.37	8.2
17	16.23	7.5

LACAILLE 3041.

Mar. 17	7 48 0.31	7.2

(*) — 25° 59′.

Feb. 8	7 48 9.97	7.3
Mar. 3	9.92	6.5
12	9.93	7.7
17	9.82	7.3

(*) — 25° 49′.

Mar. 17	7 48 21.24	7.3

O. ARG. S. 7636.

Jan. 28	7 48 43.09	6.5

(*) — 26° 4′.

Feb. 8	7 49 27.24	7.5

O. ARG. N. 8459.

Jan. 23	7 49 36.19	6.8

(*) — 30° 32′.

Feb. 11	7 49 42.13	6.5
Mar. 12	42.10	7.5

(*) — 32° 44′.

1864.	h. m. s.	Mag.
Jan. 28	7 51 47.99	8.0
Feb. 11	47.97	7.5

O. ARG. S. 7758.

Mar. 3	7 52 53.03	6.0
12	53.00	7.2

5 CANCRI.

Jan. 22	7 53 31.51	

(*) — 28° 2′.

Feb. 11	7 53 47.84	7.2
Mar. 17	47.66	7.5

6 CANCRI.

Jan. 28	7 54 54.95	
Mar. 2	54.88	
3	54.86	
12	54.81	
April 7	54.89	

LACAILLE 3127.

Feb. 8	7 58 39.61	7.3

O. ARG. S. 7951.

Mar. 17	7 59 22.11	8.7

12 CANCRI.

Jan. 22	8 0 52.92	

ρ ARGUS.

Feb. 8	8 1 34.99	
18	34.89	

O. ARG. S. 8074.

Feb. 8	8 2 42.32	8.3

O. ARG. S. 8108.

Mar. 12	8 3 28.79	6.5

ζ CANCRI, (1st *.)

Mar. 17	8 4 10.79	
April 13	10.69	

ζ CANCRI, (2d *.)

Mar. 17	8 4 11.02	
April 13	11.21	

O. ARG. S. 8165.

Mar. 12	8 4 45.38	8.0

O. ARG. S. 8169.

Mar. 12	8 5 5.16	7.0

O. ARG. S. 8199.

1864.	h. m. s.	Mag.
April 7	8 6 15.74	

(*) — 26° 59′.

Mar. 3	8 8 42.00	8.0

O. ARG. S. 8280.

Mar. 12	8 9 23.40	7.0

O. ARG. S. 8292.

April 7	8 10 6.22	

LACAILLE 3229.

Feb. 8	8 10 19.03	7.6

O. ARG. S. 8338.

April 7	8 11 45.28	

O. ARG. S. 8343.

April 7	8 11 48.36	

O. ARG. S. 8345.

April 7	8 11 57.40	

LACAILLE 3248.

Jan. 23	8 11 58.02	6.7

LACAILLE 3257.

Mar. 3	8 12 56.72	5.0
12	56.70	5.5

(*) — 26° 39′.

Feb. 8	8 13 51.00	7.6

LACAILLE 3267.

Mar. 3	8 14 27.21	7.0
12	27.30	7.3

LACAILLE 3279.

Feb. 8	8 16 19.46	7.7
April 7	19.44	6.5

(*) — 29° 13′.

Mar. 3	8 16 49.58	6.5
12	49.50	6.7

LACAILLE 3290.

Jan. 23	8 17 9.08	

LACAILLE 3299.

April 7	8 18 0.66	6.4

DORPAT 1224, (1st *.)

1864.	h. m. s.	Mag.
Jan. 27	8 18 19.83	7.3

DORPAT 1224, (2d *.)

Jan. 27	8 18 20.14	7.8

WEISSE (2,) 458.

Jan. 27	8 20 10.27	7.7

(*) — 26° 42′.

Feb. 8	8 20 24.00	7.3
Mar. 3	24.01	6.7
12	24.01	6.5

LACAILLE 3316.

Mar. 17	8 20 25.50	

29 CANCRI.

Feb. 19	8 20 48.14	

(*) — 31° 32′.

April 7	8 21 13.39	6.8

B. A. C. 2843.

Jan. 23	8 21 38.87	

LACAILLE 3331.

April 7	8 22 1.01	6.6

O. ARG. S. 8581.

Feb. 8	8 22 20.46	7.9
Mar. 12	20.51	7.0

(*) — 28° 12′.

Mar. 3	8 22 42.89	9.0

(*) — 28° 11′.

Mar. 3	8 23 16.26	7.0

LACAILLE 3341.

Mar. 3	8 23 22.17	6.8

O. ARG. S. 8620.

Mar. 12	8 24 8.59	7.5

η CANCRI.

Jan. 23	8 24 36.49	
Feb. 19	36.49	
Mar. 15	36.43	
17	36.51	

LACAILLE 3356.

Feb. 8	8 24 51.69	5.6

(*) — 31° 15′.

1864.			h. m. s.	Mag.
April	7	. .	8 25 23.87	7.5

(*) — 31° 5′.

April	7	. .	8 26 24.13	7.0

(*) — 31° 49′.

Feb.	8	. .	8 26 52.64	8.2

(*) — 23° 42′.

Mar.	3	. .	8 27 17.12	7.5
	12	. .	17.07	7.8

DORPAT 1243, (1st *.)

Jan.	27	. .	8 28 24.24	6.4

DORPAT 1243, (2d *.)

Jan.	27	. .	8 28 24.54	6.9

c^1 CANCRI.

Jan.	23	. .	8 29 30.14	6.5
Feb.	19	. .	30.21	

(*) — 30° 47′.

Mar.	12	. .	8 29 33.54	7.7
April	7	. .	33.60	7.0

LALANDE 16960.

Jan.	27	. .	8 30 4.45	7.1

LACAILLE 3419.

Mar.	12	. .	8 30 35.10	7.4

B. A. C. 2910.

Feb.	8	. .	8 31 5.59	7.2

O. ARG. S. 8776.

Mar.	3	. .	8 31 14.94	7.7

O. ARG. S. 8806.

Feb.	8	. .	8 32 20.80	7.7

ε HYDRÆ.

Jan.	23	. .	8 33 21.56	
	27	. .	21.58	
Feb.	19	. .	21.64	
April	6	. .	21.63	

b MALI.

April	7	. .	8 34 37.46	4.0

(*) — 31° 40′.

Mar.	3	. .	8 34 37.62	

O. ARG. S. 8856.

1864.			h. m. s.	Mag.
Mar.	12	. .	8 34 40.50	8.0

O. ARG. S. 8887.

Mar.	3	. .	8 36 26.89	7.5

LACAILLE 3474.

Feb.	8	. .	8 37 14.08	7.9

LACAILLE 3485.

Mar.	12	. .	8 37 29.67	6.5

(*) — 32° 40′.

April	7	. .	8 37 57.21	8.2

a MALI.

April	7	. .	8 37 58.10	5.0

LACAILLE 3500.

Mar.	3	. .	8 39 15.22	7.0

O. ARG. S. 8946.

Mar.	12	. .	8 39 24.43	9.0

WEISSE 1050.

Feb.	8	. .	8 40 49.20	7.5

O. ARG. S. 8993.

Mar.	3	. .	8 41 23.28	

WEISSE 1077.

Feb.	8	. .	8 42 11.55	8.0

LACAILLE 3531.

April	7	. .	8 42 12.95	7.0

(*) — 37° 27′.

Mar.	12	. .	8 43 21.62	7.0

LACAILLE 3546.

Jan.	23	. .	8 43 40.94	

(*) — 27° 44′.

Mar.	3	. .	8 43 46.76	7.3
	21	. .	46.60	7.3

B. A. C. 3005.

Jan.	27	. .	8 44 10.17	6.4

(*) — 41° 18′.

April	6	. .	8 44 40.72	8.0

LACAILLE 3564.

1864.			h. m. s.	Mag.
April	7	. .	8 45 29.05	7.3

LACAILLE 3567.

Mar.	21	. .	8 46 0.24	7.3

(*) — 41° 14′.

April	6	. .	8 46 3.21	7.7

(*) — 30° 45′.

Mar.	5	. .	8 47 22.59	9.0

O. ARG. S. 9127.

Mar.	3	. .	8 48 18.58	7.0
	5	. .	18.42	8.5

LACAILLE 3582.

Jan.	23	. .	8 48 25.52	
Mar.	12	. .	25.49	7.0

17 HYDRÆ.

Jan.	27	. .	8 48 37.89	
Feb.	8	. .	37.91	

WEISSE 1274.

Jan.	27	. .	8 49 35.93	8.9

(*) — 30° 0′.

April	6	. .	8 49 47.17	7.2
	7	. .	47.11	7.2

O. ARG. S. 9154.

Mar.	3	. .	8 49 47.21	7.3
	5	. .	47.22	8.5

O. ARG. S. 9155.

Mar.	3	. .	8 49 47.72	7.3
	5	. .	47.62	8.5

(*) — 37° 45′.

Mar.	21	. .	8 49 55.25	6.8

a CANCRI.

Jan.	23	. .	8 50 49.67	
	24	. .	49.64	

O. ARG. S. 9178.

Mar.	12	. .	8 50 58.70	8.2

LACAILLE 3607.

Feb.	8	. .	8 51 32.89	7.7

LACAILLE 3617.

1864.			h. m. s.	Mag.
Mar.	3	. .	8 52 60.00	7.0
	12	. .	59.90	7.7
April	7	. .	59.99	7.0

LACAILLE 3621.

Mar.	9	. .	8 53 43.08	5.7
	21	. .	42.97	5.7
April	6	. .	43.17	7.0

O. ARG. S. 9243.

Feb.	8	. .	8 54 42.45	7.1
Mar.	5	. .	42.36	7.0

(*) — 26° 57′.

Mar.	3	. .	8 55 4.87	6.5
	12	. .	4.80	7.0

B. A. C. 3082.

Jan.	23	. .	8 55 7.11	

O. ARG. S. 9258.

Jan.	27	. .	8 55 35.80	7.8

(*) — 27° 17′.

Mar.	9	. .	8 56 4.40	8.0

O. ARG. S. 9276.

April	6	. .	8 56 43.39	7.2
	7	. .	43.32	6.8
	19	. .	43.38	7.0

B. A. C. 3096.

Jan.	27	. .	8 57 1.02	7.6
Feb.	8	. .	1.03	6.8
	24	. .	0.98	6.4

O. ARG. S. 9310.

Mar.	12	. .	8 58 30.79	7.8

O. ARG. S. 9321.

April	6	. .	8 58 52.80	7.5

κ CANCRI.

Jan.	23	. .	9 0 9.67	
	24	. .	9.70	
	27	. .	9.63	
Feb.	8	. .	9.69	
	24	. .	9.66	
Mar.	3	. .	9.68	
	5	. .	9.66	
	8	. .	9.61	
	9	. .	9.66	
	21	. .	9.70	
April	7	. .	9.74	
	9	. .	9.65	
	21	. .	9.70	

O. ARG. S. 9344.

April	6	. .	9 0 18.51	7.2

(*) — 31° 20′.

1864.	h.	m.	s.	Mag.
Mar. 12	9	1	27.35	8.2

(*) — 31° 30′.

Mar. 12	9	2	0.47	
April 7			0.49	

WEISSE (2,) 10.

April 6	9	2	10.07	

LACAILLE 3700.

April 21	9	3	37.19	6.2

O. ARG. S. 9418.

Mar. 3	9	3	37.10	6.5
5			37.00	6.5
April 19			37.05	6.5

e MALI.

Jan. 23	9	4	0.50	6.0
27			0.60	6.0

(*) — 27° 46′.

Feb. 24	9	5	48.97	7.6
Mar. 8			49.18	6.5
9			49.34	7.4

B. A. C. 3143.

April 6	9	6	13.77	6.0
7			13.84	5.5

LACAILLE 3718.

Mar. 3	9	6	21.22	6.4
5			21.12	6.4

LACAILLE 3725.

Jan. 23	9	7	1.37	7.0
27			1.54	7.5

O. ARG. S. 9481.

Mar. 12	9	7	22.09	5.5
April 19			22.10	6.0

π^2 CANCRI.

Feb. 20	9	7	29.82	

O. ARG. S. 9488.

Mar. 8	9	7	39.25	7.0
9			39.25	7.7
April 21			39.37	7.0

O. ARG. S. 9489.

Mar. 3	9	7	43.95	7.0
5			43.82	7.6
21			43.93	6.8

O. ARG. S. 9496.

1864.	h.	m.	s.	Mag.
Mar. 3	9	8	4.38	7.0
5			4.31	7.7
21			4.51	7.0

O. ARG. S. 9509.

April 6	9	9	6.16	7.0
7			6.20	6.7

LACAILLE 3750.

Jan. 23	9	9	45.52	6.5

(*) — 27° 41′.

Mar. 21	9	9	49.49	6.8

O. ARG. S. 9522.

Feb. 24	9	9	51.54	7.3
April 19			51.63	7.7
21			51.68	7.3

83 CANCRI.

Jan. 24	9	11	9.77	
Feb. 20			9.71	
Mar. 3			9.81	
12			9.70	
April 6			9.78	

(*) — 28° 33′.

Mar. 5	9	11	43.53	8.5
8			43.57	8.3

(*) — 35° 6′.

April 19	9	12	4.37	7.0
21			4.43	7.0

(*) — 33° 31′.

Jan. 23	9	12	55.70	7.0

LACAILLE 3780.

April 7	9	13	0.76	6.0

O. ARG. S. 9600.

Feb. 24	9	13	53.53	8.7
Mar. 12			53.48	8.4
April 19			53.49	8.0

B. A. C. 3190.

Jan. 23	9	13	59.69	6.0

(*) — 28° 39′.

Mar. 5	9	14	23.12	6.7
9			23.02	7.3
April 21			23.09	7.3

O. ARG. S. 9615.

Mar. 5	9	14	39.18	7.5
8			39.12	7.2

(*) — 28° 45′.

1864.	h.	m.	s.	Mag.
Mar. 9	9	14	49.18	7.7

(*) — 34° 44′.

April 7	9	15	25.82	6.7

LACAILLE 3796.

Jan. 27	9	15	27.46	7.7

O. ARG. S. 9652.

Mar. 5	9	16	47.33	7.5
12			47.40	8.3

(*) — 34° 56′.

April 19	9	17	5.25	6.8
21			5.27	7.0

B. A. C. 3207.

Mar. 21	9	17	8.83	4.7

O. ARG. S. 9661.

Mar. 5	9	17	13.15	8.3
12			13.27	8.8

(*) — 28° 29′.

Mar. 8	9	17	15.27	8.3

(*) — 28° 28′.

Mar. 8	9	17	25.86	8.5

LACAILLE 3810.

April 7	9	18	3.18	6.5

(*) — 28° 28′.

Mar. 8	9	18	28.04	7.7
9			28.01	8.6

O. ARG. S. 9692.

April 6	9	19	13.62	

(*) — 27° 47′.

Mar. 5	9	20	32.28	8.0
12			32.32	8.0
April 6			32.33	7.1
21			32.20	7.4

a HYDRÆ.

Jan. 23	9	20	42.47	
27			42.46	
Feb. 20			42.43	
Mar. 21			42.38	
April 19			42.40	
June 9			42.42	
10			42.36	
28			42.50	
July 5			42.50	
18			42.52	

(*) — 27° 47′.

1864.	h.	m.	s.	Mag.
April 6	9	21	20.41	7.5

B. A. C. 3235.

April 7	9	21	49.72	

LACAILLE 3848.

April 7	9	22	25.12	

ε ANTLIÆ.

Mar. 9	9	23	28.19	3.5
April 6			28.18	4.0
19			28.17	5.0

LACAILLE 3864.

Mar. 5	9	23	49.57	7.0
8			49.50	6.7
12			49.61	7.0

(*) — 27° 35′.

Mar. 12	9	24	5.70	8.5

ξ LEONIS.

Jan. 24	9	24	23.79	
Feb. 20			23.80	

(*) — 35° 19′.

April 6	9	25	22.47	7.3

LACAILLE 3889.

Mar. 21	9	25	42.71	6.0
April 19			42.59	6.0

LACAILLE 3905.

Mar. 12	9	27	38.50	6.7
April 6			38.53	6.0
19			38.52	6.7

10 LEONIS.

Feb. 20	9	29	49.07	

O. ARG. S. 9903.

Mar. 5	9	29	51.85	7.7
8			51.90	8.0
9			51.94	7.5
12			51.84	8.3

LACAILLE 3923.

Jan. 26	9	30	15.33	6.7

O. ARG. S. 9931.

April 6	9	31	12.61	6.5
7			12.60	

(*) + 25° 4′.

April 21	9	31	39.64	8.3

LACAILLE 3945.

1864.	h. m. s.	Mag.
Jan. 26	9 31 41.43	7.5
Mar. 12	41.42	6.8
April 19	41.33	7.2

(*) — 20° 22′.

Mar. 9	9 32 3.07	8.3
21	3.13	8.5

o LEONIS.

Jan. 24	9 33 40.50	
25	40.51	

(*) — 35° 24′.

Mar. 8	9 34 46.96	
April 6	47.01	8.0

(*) — 35° 24′.

Mar. 12	9 35 19.17	
April 6	19.30	
19	19.15	

LACAILLE 3975.

April 7	9 35 25.29	6.5

LACAILLE 3976.

Jan. 26	9 35 44.85	6.8

(*) — 37° 53′.

April 21	9 35 51.66	7.5

LACAILLE 3984.

April 7	9 36 51.66	6.7

(*) — 29° 10′.

Mar. 12	9 37 11.63	8.0
April 19	11.59	8.0

ε LEONIS.

Jan. 24	9 37 53.85	
25	53.82	
Feb. 20	53.92	
Mar. 5	53.92	
9	53.97	
21	53.81	
June 10	53.95	

LACAILLE 3996.

April 21	9 38 32.87	6.5

18 LEONIS.

Jan. 24	9 38 50.60	
25	50.63	

WEISSE (2,) 832.

Jan. 26	9 39 28.63	8.7

BRISBANE 2651.

1864.	h. m. s.	Mag.
Mar. 12	9 40 31.10	7.0
April 6	31.11	7.2

(*) — 24° 34′.

Mar. 8	9 40 45.60	

BRISBANE 2657.

April 6	9 40 54.40	7.0

(*) — 29° 39′.

April 21	9 41 0.84	8.3

(*) — 40° 4′.

Mar. 12	9 41 7.28	6.8

LACAILLE 4021.

April 7	9 41 33.25	6.0

(*) — 37° 33′.

Mar. 21	9 41 45.84	
April 19	45.75	6.0

O. ARG. S. 10122.

Mar. 5	9 41 55.56	8.0

O. ARG. S. 10131.

Mar. 9	9 42 22.71	8.6
April 21	22.69	7.2

LACAILLE 4036.

Mar. 12	9 43 36.05	5.0
April 6	36.02	5.0

μ LEONIS.

Jan. 24	9 44 47.69	
26	47.53	
27	47.75	
Feb. 20	47.71	
Mar. 8	47.67	
21	47.73	

(*) — 37° 32′.

Mar. 12	9 45 46.64	7.0
April 6	46.62	7.3
21	46.54	7.2

LACAILLE 4052.

April 7	9 45 50.23	6.6

(* 114) W.

April 19	9 46 1.04	9.5

(*) — 37° 46′.

Mar. 21	9 47 31.57	
April 21	31.38	7.1

LACAILLE 4058.

1864.	h. m. s.	Mag.
Jan. 27	9 47 47.38	7.7

(*) — 27° 50′.

Mar. 12	9 48 5.06	8.3
April 6	5.12	7.5

(*) — 37° 45 .

Mar. 8	9 48 6.41	

O. ARG. S. 10219.

April 6	9 48 55.20	6.5

(*) — 32° 44′.

Jan. 26	9 49 6.59	7.0

(*) — 40° 6′.

April 19	9 49 20.06	8.5

O. ARG. S. 10227.

Mar. 12	9 49 47.31	8.8

(*) — 40° 9′.

April 19	9 50 19.30	6.5

B. A. C. 3405.

Jan. 26	9 50 28.81	6.5
Mar. 8	28.72	6.0

LACAILLE 4076.

Jan. 27	9 50 34.90	7.2

LACAILLE 4089.

Jan. 26	9 52 26.93	
Mar. 9	27.07	7.2

π LEONIS.

Jan. 24	9 52 48.78	
Feb. 2	48.78	
April 7	48.77	
21	48.74	

(*) — 30° 1′.

Mar. 12	9 53 3.14	8.0
April 6	3.04	7.2

(*) — 35° 35′.

April 19	9 54 6.84	

LACAILLE 4106.

Jan. 27	9 55 32.93	7.7

(*) — 28° 1′.

Jan. 27	9 55 33.88	7.9

LACAILLE 4115.

1864.	h. m. s.	Mag.
Jan. 26	9 56 33.88	6.8

(*) — 29° 34′.

Mar. 12	9 56 45.86	9.0
April 2	45.86	8.5

(*) — 29° 33′.

Mar. 12	9 57 13.86	8.4
April 21	13.86	7.5

O. ARG. S. 10337.

Mar. 9	9 57 53.09	5.0

WEISSE 1243.

April 6	9 58 7.02	8.0

O. ARG. S. 10346.

April 23	9 58 27.70	6.7
26	27.87	7.0

O. ARG. S. 10351.

Mar 5	9 58 50.68	6.6
April 23	50.54	6.8
26	50.67	7.0

LACAILLE 4142.

Jan. 26	9 59 23.35	6.8

14 SEXTANTIS.

Feb. 22	9 59 28.10	

WEISSE 1279.

April 6	10 0 4.90	7.5

α LEONIS.

Jan. 27	10 0 54.88	
Feb. 22	54.82	
June 10	54.83	
25	54.83	

O. ARG. S. 10387.

April 19	10 1 23.44	8.0
26	23.44	8.0

(*) + 12° 56′.

April 21	10 1 52.61	9.2

(*) — 32° 12′.

Jan. 26	10 2 39.42	8.5

(*) + 12° 57′.

April 21	10 2 40.70	9.0

(*) + 13° 10′.

1864.	h.	m.	s.	Mag.
April 23	10	3	7.52	9.5

LACAILLE 4165.

Jan. 26	10	3	20.21	7.4

LACAILLE 4185.

Jan. 26	10	5	34.74	6.5

LACAILLE 4183.

Jan. 27	10	5	39.89	7.4

WEISSE 75.

April 21	10	5	54.61	9.0
23			54.55	9.0

LACAILLE 4186.

April 19	10	5	56.03	6.5
26			56.13	6.5

O. ARG. S. 10471.

Mar. 8	10	7	36.14	6.0

WEISSE 115.

Mar. 5	10	7	41.27	9.2
April 21			41.28	

WEISSE 116.

April 23	10	7	41.60	7.3

B. A. C. 3497.

Jan. 26	10	7	48.63	6.5

B. A. C. 3498.

Jan. 26	10	7	58.47	7.0

(*) — 38° 39′.

April 19	10	8	12.10	7.0
26			12.13	7.0

(*) — 38° 36′.

April 26	10	9	37.33	8.3

LACAILLE 4218.

Jan. 27	10	9	41.56	7.7
Mar. 8			41.37	7.0
9			41.52	7.0

LACAILLE 4227.

April 7	10	10	37.71	7.0

γ^1 LEONIS.

1864.	h.	m.	s.	Mag.
Jan. 25	10	12	15.02	
26			14.99	
27			14.97	
Mar. 9			14.92	
April 19			15.00	
23			14.98	
26			14.96	
June 10			14.96	

γ^2 LEONIS.

April 19	10	12	15.30	
23			15.24	

WEISSE 209.

Mar. 12	10	12	59.40	7.2
April 21			59.41	7.5

LACAILLE 4250.

April 7	10	13	55.97	7.0

LACAILLE 4253.

Mar. 8	10	14	1.74	

WEISSE 240.

Mar. 12	10	14	42.54	7.2
April 21			42.44	7.3

43 LEONIS.

Jan. 25	10	15	40.85	
26			40.72	

(*) — 35° 22′.

April 19	10	15	48.01	7.5
26			47.96	7.5

(*) — 11° 22′.

April 23	10	15	58.83	7.3

WEISSE 276.

April 21	10	16	54.31	6.7

RUMKER 3171.

Mar. 8	10	17	17.18	9.0
12			17.24	8.8

(*) — 11° 18′.

April 23	10	17	43.59	7.5

LACAILLE 4287.

April 7	10	18	47.35	6.7

WEISSE 316.

Mar. 12	10	19	1.07	7.5

45 LEONIS.

1864.	h.	m.	s.	Mag.
Jan. 26	10	20	15.29	6.0
27			15.19	

O. ARG. S. 10634.

April 6	10	20	44.95	
21			44.91	4.5

WEISSE 375.

Mar. 12	10	21	47.36	7.0

WEISSE 377.

Mar. 8	10	21	55.76	8.7
April 19			55.70	9.0

(*) — 35° 30′.

April 26	10	21	58.78	7.0
28			58.82	6.7

LACAILLE 4307.

April 7	10	22	54.25	6.5

30 SEXTANTIS.

Mar. 20	10	23	7.98	
21			8.02	

WEISSE 412.

April 19	10	23	58.25	8.0

O. ARG. S. 10684.

April 21	10	24	11.81	8.5
26			11.87	7.7

LACAILLE 4324.

Jan. 26	10	25	17.72	6.7

WEISSE 439.

Mar. 8	10	25	26.21	9.0
April 19			26.12	9.0

ρ LEONIS.

Jan. 27	10	25	26.19	
Mar. 20			26.19	
21			26.19	
April 6			26.27	
28			26.24	

(*) — 35° 25′.

April 7	10	27	10.69	7.0
21			10.64	8.0

LACAILLE 4340.

Jan. 26	10	27	17.64	

LACAILLE 4349.

Mar. 5	10	28	20.29	7.0

(*) — 35° 40′.

1864.	h.	m.	s.	Mag.
April 19	10	29	12.94	8.6
26			12.92	8.4

LACAILLE 4360.

Jan. 26	10	29	28.70	6.5

(*) — 35° 39′.

April 19	10	29	52.88	8.1
21			52.93	8.0
26			52.84	7.5

LACAILLE 4363.

Mar. 8	10	30	2.81	6.6
12			2.92	6.0
April 6			2.82	6.2
23			2.81	6.5
28			2.86	7.3

LACAILLE 4365.

Mar. 5	10	30	10.67	6.7
April 7			10.62	6.8

LACAILLE 4382.

Jan. 26	10	32	31.07	7.0
27			31.16	7.7

LACAILLE 4384.

Mar. 12	10	32	34.86	7.0
April 6			34.91	7.3
19			34.76	7.0

LACAILLE 4387.

Mar. 5	10	32	55.79	6.6
7			55.88	6.0
21			55.93	
April 21			55.68	6.0
26			55.71	5.3

LACAILLE 4389.

Mar. 8	10	33	26.12	7.0

O. ARG. N. 11041.

April 28	10	33	4.41	8.3

LACAILLE 4399.

April 7	10	34	28.22	5.5

WEISSE 618.

April 23	10	34	54.48	6.5

LACAILLE 4407.

Mar. 5	10	35	6.68	7.0
April 7			6.70	6.0

LACAILLE 4406.

Jan. 26	10	35	13.71	7.0

(*) — 35° 45′.

1864.			h. m. s.	Mag.
April	6	. .	10 35 35.00	7.5

(*) — 35° 49′.

April	26	. .	10 36 34.89	8.5

LACAILLE 4419.

Mar.	8	. .	10 36 46.46	6.4

(*) — 28° 20′.

April	28	. .	10 36 55.16	8.0

O. ARG. S. 10849.

Mar.	12	. .	10 37 45.72	6.5
April	19	. .	45.61	6.5
	21	. .	45.70	6.0

36 SEXTANTIS.

Mar.	20	. .	10 37 56.55	
	21	. .	56.60	

LACAILLE 4437.

April	7	. .	10 38 14.79	6.0

WEISSE (2,) 776.

April	23	. .	10 38 19.90	8.0

37 SEXTANTIS.

Jan.	27	. .	10 38 48.33	

(*) — 36° 14′.

April	7	. .	10 39 25.72	7.0

(*) — 40° 15′.

April	15	. .	10 39 33.66	6.0
	28	. .	33.56	7.0

O. ARG. S. 10872.

Mar.	5	. .	10 39 51.25	9.0
April	6	. .	51.33	8.0
	19	. .	51.19	8.7

O. ARG. S. 10874.

Mar.	5	. .	10 39 51.74	8.5
April	6	. .	51.68	7.5
	19	. .	51.65	8.0

l LEONIS.

Jan.	26	. .	10 41 53.68	
	27	. .	53.84	
Feb.	22	. .	53.75	
Mar.	7	. .	53.68	
	8	. .	53.79	
	12	. .	53.75	
	17	. .	53.83	
April	7	. .	53.74	
	23	. .	53.74	

O. ARG. S. 10906.

1864.			h. m. s.	Mag.
April	6	. .	10 42 34.64	6.7
	19	. .	34.54	6.0

(*) — 37° 35′.

April	21	. .	10 42 45.89	8.0

B. A. C. 3719.

Mar.	5	. .	10 43 26.43	5.0

(*) + 25° 11′.

April	28	. .	10 43 27.37	8.2

LACAILLE 4488.

Mar.	8	. .	10 43 55.41	6.7

DORPAT 1482, (1st *.)

Jan.	26	. .	10 44 51.88	9.0
April	23	. .	51.93	8.5

DORPAT 1482, (2d *.)

Jan.	26	. .	10 44 52.55	
April	23	. .	52.53	8.0

(*) + 8° 9′.

April	23	. .	10 45 12.52	8.8

O. ARG. S. 10933.

Mar.	12	. .	10 45 15.47	7.7
April	6	. .	15.45	7.0
	19	. .	15.41	7.0

O. ARG. S. 10944.

Mar.	7	. .	10 46 0.43	7.9

LACAILLE 4503.

April	7	. .	10 46 42.53	7.3

(*) — 23° 36′.

April	21	. .	10 47 1.25	8.3

LACAILLE 4506.

Mar.	5	. .	10 47 12.50	7.2

LACAILLE 4505.

Jan.	27	. .	10 47 16.31	7.6
Mar.	7	. .	16.25	7.2

(*) — 30° 27′.

Mar.	12	. .	10 47 36.28	8.0
April	6	. .	36.18	7.5

DORPAT 1487, (1st *.)

April	23	. .	10 48 1.56	6.5

O. ARG. S. 10974.

1864.			h. m. s.	Mag.
May	5	. .	10 48 12.51	8.0

LALANDE 21014.

Jan.	26	. .	10 48 47.26	8.0

LACAILLE 4519.

Mar.	5	. .	10 49 14.43	6.8

B. A. C. 3755.

Mar.	8	. .	10 50 11.96	4.0
April	7	. .	11.98	5.0
	26	. .	11.95	4.5

O. ARG. S. 11003.

April	6	. .	10 50 14.30	6.7
	21	. .	14.33	7.2

(*) — 27° 45′.

April	19	. .	10 50 22.35	8.3

O. ARG. S. 11015.

April	19	. .	10 51 17.37	8.0
	23	. .	17.38	8.3

O. ARG. S. 11020, (1st *.)

Mar.	7	. .	10 51 47.33	7.8
April	26	. .	47.32	7.7

(*) — 22° 32′.

May	5	. .	10 52 17.58	7.3

(*) — 35° 46′.

Mar.	12	. .	10 52 37.52	8.0
April	6	. .	37.52	7.7
	21	. .	37.52	7.5

LACAILLE 4558.

April	7	. .	10 54 26.04	6.0
	26	. .	25.97	6.0

p^1 LEONIS.

Jan.	26	. .	10 54 41.27	
	27	. .	41.22	

(*) — 33° 9′.

May	5	. .	10 55 7.75	8.0

O. ARG. S. 11069.

April	6	. .	10 55 38.00	5.5
	19	. .	37.94	5.5
	21	. .	37.90	5.5

LACAILLE 4567.

Mar.	12	. .	10 55 45.78	6.0
April	23	. .	45.71	6.5

LACAILLE 4576.

1864.			h. m. s.	Mag.
April	26	. .	10 57 37.63	7.0

χ LEONIS.

Jan.	26	. .	10 57 47.73	
	27	. .	47.69	
Feb.	22	. .	47.63	
Mar.	5	. .	47.69	
	9	. .	47.60	
	21	. .	47.69	
	24	. .	47.69	
April	21	. .	47.58	
	28	. .	47.61	
	29	. .	47.59	
May	5	. .	47.62	

B. A. C. 3792.

Mar.	8	. .	10 58 17.78	5.5

WEISSE 1049.

Mar.	7	. .	10 58 47.53	8.7
April	7	. .	47.49	8.0

WEISSE 1060.

Mar.	7	. .	10 59 11.30	7.3

p^3 LEONIS.

April	17	. .	10 59 45.45	

LACAILLE 4596.

Mar.	5	. .	11	0 8.85	6.5
	12	. .		8.93	

O. ARG. S. 11154.

April	6	. .	11	0 41.71	6.5
	19	. .		41.74	6.6
	26			41.86	6.8
May	5	. .		41.76	

LACAILLE 4607.

Mar.	8	. .	11	1 16.63	7.2
April	21	. .		16.52	6.7
	23	. .		16.61	6.5

LACAILLE 4609.

Mar.	21	. .	11	1 30.84	

ψ URSÆ MAJORIS.

Mar.	24	. .	11	1 46.90	

LACAILLE 4614.

Jan.	26	. .	11	1 54.60	7.0

LACAILLE 4616.

April	7	. .	11	2 5.34	

O. ARG. N. 11496.

April	28	. .	11	2 16.94	8.5

O. ARG. S. 11188.

1864.	h.	m.	s.	Mag.
Mar. 5	11	2	38.32	9.0
12			38.48	8.8
April 19			38.36	8.0

O. ARG. N. 11518.

April 28	11	3	23.27	7.0

O. ARG. S. 11208.

Mar. 5	11	3	41.72	7.0
12			41.73	7.5
April 6			41.81	6.5
19			41.72	6.7
29			41.77	5.6

(*) — 25° 23′.

April 19	11	4	27.33	9.0

O. ARG. S. 11216.

April 29	11	4	27.67	7.0

(* 124) W.

April 23	11	5	8.01	9.0

LACAILLE 4638.

Jan. 26	11	5	8.36	6.7
Mar. 5			8.25	7.3
12			8.37	6.8
April 6			8.26	6.0
7			8.23	

LACAILLE 4642.

Mar. 8	11	5	30.18	6.5
April 21			30.21	6.2

p^5 LEONIS.

Feb. 22	11	6	35.51	
Mar. 24			35.50	

δ LEONIS.

Jan. 27	11	6	39.54	
Mar. 7			39.51	
23			39.44	
April 26			39.46	

O. ARG. N. 11584.

April 28	11	7	21.33	7.5

O. ARG. S. 11250.

Mar. 5	11	7	45.95	7.0
12			46.01	
April 6			45.97	6.8
19			45.92	7.0

LACAILLE 4667.

April 7	11	8	29.96	6.6

LACAILLE 4668.

Mar. 8	11	8	35.71	7.6

O. ARG. S. 11267.

April 26	11	9	5.44	7.2
May 5			5.48	8.0

ϕ LEONIS.

Jan. 26	11	9	32.66	
27			32.69	
Mar. 21			32.60	
April 17			32.76	

LACAILLE 4680.

Mar. 8	11	10	12.43	6.8

O. ARG. S. 11291.

April 29	11	11	23.41	6.7

LACAILLE 4693.

Mar. 7	11	11	42.75	5.7
23			42.71	

δ CRATERIS.

Jan. 26	11	12	20.72	
Mar. 5			20.57	
12			20.64	
April 6			20.60	
7			20.57	
26			20.61	

O. ARG. S. 11304.

April 29	11	12	35.38	6.5

O. ARG. N. 11674.

April 23	11	12	35.64	
28			35.97	

WEISSE 211.

April 11	11	13	9.46	

O. ARG. S. 11318.

April 29	11	13	29.83	6.4
May 5			29.66	6.7

O. ARG. S. 11320.

April 21	11	13	33.68	7.1

σ LEONIS.

Jan. 27	11	13	55.04	
Mar. 24			54.97	

LACAILLE 4713.

Mar. 12	11	14	23.57	7.0
April 19			23.47	6.0

WEISSE 253.

April 26	11	14	29.55	7.2

O. ARG. S. 11344.

Mar. 5	11	15	39.55	8.3
7			39.70	7.9
8			39.52	8.3
23			39.56	

WEISSE 261.

April 23	11	16	1.27	9.2

LACAILLE 4725.

Mar. 12	11	16	12.87	7.2
April 19			12.74	6.6
21			12.69	7.0

O. ARG. S. 11353.

Mar. 5	11	16	22.69	7.0
7			22.83	6.6
8			22.68	6.5
23			22.56	

ι LEONIS.

Jan. 27	11	16	37.52	

WEISSE 284.

April 26	11	17	33.52	7.5
May 5			33.28	7.8

O. ARG. S. 11374.

April 21	11	18	53.49	8.2

83 LEONIS, (1st *.)

Mar. 24	11	19	39.90	
April 23			39.93	6.8
28			39.84	6.5

83 LEONIS, (2d *.)

Mar. 24	11	19	40.92	
April 23			40.90	8.3
28			40.80	7.5

LACAILLE 4746.

April 7	11	19	55.33	7.2

O. ARG. S. 11394.

Mar. 3	11	20	23.63	8.3
28			23.73	

τ LEONIS.

Mar. 7	11	20	44.23	
8			44.23	
April 18			44.21	
19			44.22	

WEISSE 349.

April 18	11	20	45.15	
19			45.13	7.3

WEISSE 358.

April 29	11	20	53.60	6.3

(*) — 34° 47′.

Mar. 12	11	21	6.54	7.2
April 6			6.54	7.0

WEISSE 365.

Mar. 7	11	21	14.43	6.4

O. ARG. S. 11410.

Mar. 3	11	21	25.63	6.7
5			25.66	7.0
23			25.70	

B. A. C. 3909.

April 29	11	22	14.64	5.8

(* 123) W.

April 23	11	22	38.91	9.0

LACAILLE 4758.

April 21	11	22	41.81	6.5
May 5			41.84	6.7

LACAILLE 4760.

April 7	11	22	53.34	6.0

O. ARG. S. 11438.

Mar. 5	11	23	23.54	6.5
12			23.60	6.0

WEISSE 403.

April 28	11	23	43.32	7.7

O. ARG. S. 11444.

Mar. 3	11	24	3.56	7.2
5			3.52	8.0
12			3.56	7.5

(*) — 29° 30′.

May 5	11	24	6.89	9.0

O. ARG. S. 11446.

April 6	11	24	7.62	7.7
19			7.59	7.3

B. A. C. 3927.

April 7	11	25	59.52	4.8

LACAILLE 4777.

Mar. 3	11	26	1.12	6.0
April 6			1.18	6.0
21			1.12	6.0
May 5			1.18	7.0

WEISSE 450.

1864.	h. m. s.	Mag.
Mar. 23	11 26 30.57	

B. A. C. 3929.

April 7	11 26 48.31	5.5

O. ARG. N. 11873.

April 23	11 26 59.77	8.5
28	27 0.16	8.7

(*) — 40° 33′.

Mar. 12	11 27 26.22	7.0
April 19	26.07	6.5

(*) — 35° 26′.

Mar. 3	11 27 28.30	7.0
April 6	28.33	7.2

O. ARG. S. 11491.

Mar. 7	11 28 5.63	
April 21	5.45	6.7

(*) — 5° 45′.

Mar. 23	11 28 6.49	

LACAILLE 4792.

April 29	11 28 20.59	6.5

ν LEONIS.

Feb. 24	11 29 46.74	
Mar. 3	46.90	
24	46.88	

(*) — 34° 21′.

Mar. 12	11 30 21.73	8.0
April 19	21.72	7.0

LACAILLE 4814.

April 7	11 30 39.20	6.7

(*) — 34° 49′.

April 29	11 31 10.54	7.2

O. ARG. S. 11531.

April 6	11 31 16.99	8.6
21	17.04	8.5

(*) — 24° 52′.

April 6	11 31 18.59	9.0
21	18.49	9.0

LACAILLE 4824.

April 7	11 31 46.42	7.5

(*) — 26° 5′.

1864.	h. m. s.	Mag.
Mar. 7	11 32 18.33	7.4
May 5	18.11	7.5

LACAILLE 4830.

April 7	11 32 27.75	7.3

O. ARG. S. 11557.

Mar. 12	11 33 2.50	7.5
April 19	2.49	7.5

CARRINGTON 1741.

April 28	11 33 13.34	8.7

(*) — 27° 43′.

Mar. 3	11 33 16.84	6.7
8	16.82	7.0
23	16.88	

γ CEPHEI, S. P.

Mar. 5	11 33 37.96	

B. A. C. 3969.

April 21	11 34 44.87	5.5

B. A. C. 3974.

Mar. 5	11 36 29.27	6.0
8	29.16	

O. ARG. N. 12020.

April 28	11 36 39.68	7.0
May 5	38.95	7.0

WEISSE 646.

Mar. 12	11 37 29.64	7.9

(*) — 36° 51′.

April 19	11 38 30.41	7.0
21	30.47	7.5

ν VIRGINIS.

Feb. 24	11 38 39.75	

WEISSE 674.

Mar. 12	11 39 1.07	8.5

LACAILLE 4881.

Mar. 7	11 39 19.00	7.8

LACAILLE 4882.

April 7	11 39 20.70	7.0

(*) — 35° 9′.

April 29	11 40 6.02	5.3
May 4	5.98	5.6

LACAILLE 4890.

1864.	h. m. s.	Mag.
Mar. 23	11 40 16.01	6.4
April 18	16.10	

O. ARG. S. 11656.

April 26	11 40 16.31	7.0
May 5	16.45	7.0

(*) — 7° 22′.

Mar. 8	11 40 54.81	9.5

(*) — 35° 15′.

April 29	11 41 37.82	6.6
May 4	37.82	7.2

β LEONIS.

Mar. 3	11 41 55.00	
5	54.99	
12	55.07	
21	55.02	
April 7	55.02	
21	54.99	
23	54.99	
28	54.98	
June 13	55.05	
July 29	55.07	
Aug. 12	55.05	
13	54.97	

β VIRGINIS.

Jan. 27	11 43 24.39	
Feb. 24	24.34	
April 18	24.37	
19	24.38	

(*) — 36° 57′.

April 26	11 43 33.38	7.5

WEISSE 758.

Mar. 9	11 44 1.97	7.3

(*) — 36° 10′.

May 5	11 44 7.63	7.5

(*) — 36° 59′.

April 21	11 45 12.67	7.0
26	12.57	8.0

(*) — 37° 34′.

April 28	11 45 44.10	7.5

(*) — 35° 12′.

Mar. 8	11 47 5.34	7.5
April 21	5.19	6.3
May 4	5.46	7.4
5	5.23	7.0

B. A. C. 4025.

April 19	11 47 40.67	7.5

B. A. C. 4034.

1864.	h. m. s.	Mag.
April 26	11 48 48.84	5.8

RADCLIFFE 2768.

April 28	11 49 39.35	8.6
May 5	39.36	8.5

RADCLIFFE 2769.

April 28	11 49 52.17	7.5
May 4	52.30	6.2
5	52.28	7.5

RADCLIFFE 2771.

April 28	11 50 1.99	7.0
May 4	1.74	5.6
5	1.72	7.5

O. ARG. S. 11796.

Mar. 8	11 50 59.35	6.7
April 25	59.18	
May 16	59.42	5.8

(*) — 26° 55′.

April 18	11 51 4.91	

WEISSE 895.

April 23	11 52 24.18	8 7

O. ARG. S. 11831.

April 19	11 53 51.57	8.3
21	51.54	7.2
May 16	51.68	7.2

LACAILLE 4976.

May 5	11 54 15.89	6.7

(*) — 35° 8′.

April 28	11 55 38.10	7.8
29	38.33	7.2
May 4	38.34	7.7

O. ARG. S. 11848.

May 16	11 55 12.35	8.8

O. ARG. S. 11876.

April 19	11 57 23.11	7.0

B. A. C. 4070.

Mar. 3	11 57 36.95	
8	39.33	
April 26	38.12	
May 17	37.45	

WEISSE 980.

April 18	11 57 45.57	

o Virginis.

1864.	h. m. s.	Mag.
Jan. 27	11 58 4.54	
Mar. 24	4.64	
April 18	4.60	
29	4.54	
May 4	4.62	
5	4.60	
16	4.67	
17	4.68	

Lacaille 5013.

Feb. 25	11 58 45.38	

O. Arg. N. 12337.

April 23	11 59 30.95	8.6
28	31.34	8.7

O. Arg. S. 11908.

April 19	11 59 50.88	
May 16	50.99	

Dorpat 1604, (1st *.)

May 5	12 2 14.34	7.7

Dorpat 1604, (2d *.)

May 5	12 2 15.04	9.4

Dorpat 1604, (3d *.)

May 5	12 2 17.63	8.8

10 Virginis.

Jan. 27	12 2 30.96	
April 18	30.87	
19	30.90	5.5

ε Corvi.

Feb. 25	12 2 55.75	
Mar. 8	55.83	
April 26	55.75	
29	55.76	

4 Draconis.

Mar. 9	12 5 35.16	

O. Arg. S. 11995.

April 26	12 5 39.03	7.8
28	38.97	8.0

Lacaille 5063.

May 5	12 5 57.87	6.0

(*) — 25° 48′.

Feb. 25	12 8 44.95	8.2
Mar. 8	45.05	8.3
April 26	44.97	8.3
29	44.94	7.2
May 5	44.91	7.8

(*) — 25° 49′.

April 26	12 8 48.15	9.0
29	48.29	8.2

(*) — 28° 43′.

April 19	12 9 29.62	8.7

(*) — 25° 50′.

Feb. 25	12 9 36.06	7.2
Mar. 8	36.17	7.5
April 29	36.19	6.9
May 5	36.11	6.8

O. Arg. S. 12057.

April 28	12 10 40.42	7.0
May 4	40.50	6.7
16	40.43	6.9

(*) — 25° 48′.

April 29	12 11 19.24	8.4

13 Virginis.

Mar. 23	12 11 29.71	
April 18	29.78	

O. Arg. S. 12082.

Feb. 25	12 12 38.94	6.8
April 26	38.95	6.7

(*) — 27° 45′.

May 5	12 12 42.71	7.3

B. A. C. 4150.

May 17	12 12 43.66	6.6

η Virginis.

Mar. 8	12 12 44.55	
9	44.70	
23	44.59	
April 18	44.76	
19	44.65	
28	44.67	
May 4	44.62	
7	44.66	
16	44.67	

O. Arg. S. 12101.

April 26	12 13 59.05	7.2

O. Arg. S. 12116.

Feb. 25	12 15 9 97	6.5
April 26	9.77	6.5

(*) — 32° 48′.

May 16	12 15 17.19	9.3

Dorpat 1636, (1st *.)

April 28	12 15 24.34	9.5
May 7	24.43	9.0

Dorpat 1636, (2d *.)

April 28	12 15 24.84	7.0
May 7	24.89	7.4

Lacaille 5126.

May 4	12 15 52.72	7.0

Lalande 23198.

Feb. 25	12 16 45.91	7.2
April 21	45.87	7.5

O. Arg. S. 12134.

April 26	12 16 49.70	8.3

Lacaille 5143.

Feb. 25	12 17 57.33	6.0
Mar. 23	57.21	
April 21	57.23	6.5

O. Arg. S. 12161.

April 28	12 19 18.98	7.8
May 4	18.97	7.7

O. Arg. S. 12170.

April 23	12 20 6.22	7.0
26	6.15	6.7
May 16	6.31	7.0

(*) — 35° 11′.

April 6	12 21 13.62	8.6
21	13.68	8.3
28	13.70	8.0
29	13.87	7.7

(*) — 35° 5′.

April 6	12 22 27.80	8.3
21	27.81	8.3
28	27.78	8.0
29	27.94	7.5

(*) — 32° 54′.

April 21	12 24 10.13	8.1
23	10.16	8.7
26	10.07	8.0

Lacaille 5191.

May 4	12 24 40.01	6.4
5	39.74	6.0

Lacaille 5193.

April 28	12 25 10.29	7.7
May 4	10.43	7.4

(*) — 31° 46′.

April 28	12 26 3.92	8.5

(*) — 32° 30′.

April 21	12 26 17.28	8.0

O. Arg. S. 12232.

Mar. 23	12 25 26.54	

q Virginis.

Feb. 24	12 26 33.40	
25	33.31	
May 16	33.38	

(*) — 31° 47′.

April 28	12 26 39.65	7.3
May 4	39.81	7.8

β Corvi.

Feb. 24	12 27 2.40	
25	2.28	
April 6	2.38	
26	2.32	
29	2.33	
May 5	2.39	

κ Draconis.

Mar. 24	12 27 29.28	
May 7	29.36	

O. Arg. S. 12269.

May 16	12 28 42.72	9.5

Lacaille 5220.

Jan. 1	12 29 26.27	7.5
April 6	26.24	
21	26.31	7.3
23	26.26	7.3
26	26.21	7.8

O. Arg. S. 12286.

April 29	12 29 50.83	7.5
May 16	50.87	8.3

Weisse (2,) 636.

May 7	12 30 11.36	8.0

χ Virginis.

Feb. 24	12 32 1.33	
25	1.29	
Mar. 24	1.29	
April 19	1.24	
May 16	1.37	
17	1.36	

Lacaille 5234.

April 6	12 32 43.26	7.0
29	43.51	7.5

O. Arg. S. 12332.

April 26	12 33 18.59	8.0
May 4	18.80	8.5

O. Arg. S. 12342.

Jan. 1	12 34 3.59	7.5

γ^1 Virginis.

1864.	h.	m.	s.	Mag.
June 13	12	34	33.85	
14			33.74	
15			33.81	

γ^2 Virginis.

June 13	12	34	33.93	
14			33.86	
15			33.90	

Lacaille 5252.

April 29	12	34	58.55	7.4

(*) — 35° 16′.

April 6	12	35	40.14	8.0

(*) — 40° 35′.

Feb. 25	12	35	53.04	7.0

21 Cassiopeæ, S. P.

May 7	12	36	27.92	

O. Arg. S. 12377.

April 21	12	36	33.19	5.5
23			33.19	4.5

Lacaille 5271.

Jan. 28	12	37	48.25	6.0

O. Arg. S. 12389.

May 16	12	37	48.46	6.5

O. Arg. S. 12390.

May 5	12	37	51.26	7.5

(*) — 37° 5′.

April 6	12	38	2.71	7.5
19			2.75	7.0

Lacaille 5278.

Jan. 1	12	39	13.26	5.0
Feb. 25			13.24	5.7
April 23			13.26	6.0
May 31			13.20	6.6

Lacaille 5284.

Jan. 28	12	40	45.54	6.0
April 6			45.45	6.5
21			45.48	6.7
May 16			45.65	7.5

O. Arg. S. 12444.

April 29	12	41	37.20	8.8

B. A. C. 4301.

May 7	12	41	53.30	6.5

O. Arg. S. 12460.

Feb. 25	12	42	41.30	8.0
April 23			41.14	8.2
29			41.33	7.3

Weisse 722.

April 28	12	42	45.67	9.0

Lacaille 5295.

April 19	12	42	52.33	7.0
May 5			52.35	7.0

(*) — 37° 11′.

May 16	12	42	57.07	8.2

Weisse 728.

April 28	12	43	9.81	7.5

(*) — 25° 7′.

April 29	12	44	9.57	8.2

Lacaille 5301.

Jan. 28	12	44	11.68	6.5

Lacaille 5302.

Jan. 28	12	44	17.21	

Weisse 764.

April 6	12	45	17.59	9.0

O. Arg. S. 12495.

April 28	12	45	44.30	7.5

ψ Virginis.

Feb. 25	12	47	4.55	
April 19			4.52	

O. Arg. S. 12520.

April 28	12	47	58.24	6.6

O. Arg. S. 12523.

April 26	12	48	11.81	8.3

O. Arg. S. 12529.

April 6	12	49	2.54	8.0
26			2.63	8.2

O. Arg. S. 12533.

April 6	12	49	13.37	6.5
26			13.47	7.0

B. A. C. 4345.

Jan. 28	12	49	27.06	
April 21			27.14	
23			27.03	
May 31			27.10	

a Canum Venaticorum.

Jan. 28	12	49	28.49	
April 21			28.46	
23			28.46	
29			28.52	
May 21			28.42	
31			28.45	

(*) — 32° 24′.

April 19	12	49	50.48	7.2

O. Arg. S. 12573.

Feb. 25	12	52	43.17	7.3
April 19			43.11	6.7
May 16			43.22	7.2

Weisse 909.

April 26	12	53	23.53	6.5

O. Arg. S. 12588.

May 4	12	54	10.68	7.5
5			10.44	7.0
31			10.49	7.3

Weisse 926.

May 7	12	54	21.75	

Lacaille 5371.

Jan. 1	12	55	19.79	

B. A. C. 4369.

Jan. 1	12	56	3.24	

O. Arg. S. 12615.

Feb. 25	12	56	19.07	8.0
April 19			19.08	7.0
29			19.24	

(*) — 16° 54′.

April 28	12	56	37.08	
May 5			37.00	7.5

(*) — 37° 4′.

May 16	12	56	45.89	9.5

O. Arg. S. 12620.

May 31	12	56	47.88	

O. Arg. S. 12629.

April 28	12	57	36.86	
May 7			36.87	

(*) — 34° 22′.

April 21	12	58	2.35	7.3
23			2.22	
26			2.30	7.3

O. Arg. S. 12655.

April 19	12	59	58.63	7.0
May 5			58.65	7.2
16			58.85	7.2
31			58.63	7.2

50 Virginis.

Mar. 24	13	2	25.80	
May 17			25.90	

Weisse 17.

May 16	13	2	42.18	

θ Virginis.

Feb. 25	13	2	42.25	
April 6			42.24	
19			42.23	
26			42.26	
28			42.30	
29			42.29	
May 4			42.34	
5			42.19	
6			42.20	
7			42.25	
16			42.31	
31			42.27	
June 10			42.18	
Dec. 22			42.19	

O. Arg. S. 12802.

April 28	13	12	48.61	7.0

O. Arg. S. 12825.

April 28	13	14	48.57	7.0
May 5			48.43	6.8

Weisse 235.

May 16	13	14	56.55	7.5

Lacaille 5514.

May 31	13	15	17.54	6.7

Lalande 24816.

April 28	13	16	35.48	7.5
May 5			35.36	7.0

a Virginis.

Feb. 25	13	17	49.34	
Mar. 12			49.33	
23			49.44	
24			49.29	
April 19			49.35	
23			49.38	
May 6			49.32	
17			49.30	
June 3			49.31	
10			49.30	
16			49.31	
17			49.25	
July 30			49.32	
Aug. 9			49.29	
12			49.29	
30			49.31	
Sept. 1			49.33	
Dec. 22			49.29	

(*) — 34° 55′.

1864.	h.	m.	s.	Mag.
April 6	13	19	4.50	8.5
May 5			4.50	8.0
31			4.51	9.0

WEISSE 304.

April 28	13	19	29.10	8.0
May 7			29.11	

WEISSE 312.

April 26	13	19	52.25	8.3

(*) — 34° 57′.

May 5	13	19	58.97	7.8

(*) — 32° 46′.

May 31	13	20	41.06	8.9

B. A. C. 4496.

Mar. 26	13	21	5.92	

(*) — 34° 51′.

Feb. 25	13	21	25.01	6.7
May 5			24.97	6.5

71 VIRGINIS.

Mar. 24	13	22	16.85	
April 6			16.93	6.0
26			16.87	6.0

O. ARG. S. 12908.

April 23	13	22	49.61	

(*) — 34° 29′.

May 31	13	23	46.39	8.7

O. ARG. S. 12920.

Feb. 25	13	23	55.96	7.0
April 28			56.02	7.0
May 5			55.83	6.7

WEISSE 392.

April 26	13	24	24.27	9.0

WEISSE 413.

May 7	13	25	18.09	

h VIRGINIS.

April 21	13	25	35.81	

ζ VIRGINIS.

1864.	h.	m.	s.	Mag.
Jan. 28	13	27	33.74	
Feb. 25			33.75	
Mar. 24			33.73	
April 6			33.70	
23			33.71	
26			33.71	
28			33.77	
May 7			33.74	
20			33.77	
21			33.70	

(*) — 31° 40′.

May 5	13	27	50.28	7.0

(*) — 26° 33′.

April 21	13	30	56.21	7.5
May 5			56.28	7.3

(*) + 77° 0′.

May 7	13	32	4.04	8.3

(*) — 26° 27′.

May 5	13	32	4.28	8.0

(*) — 37° 41′.

April 21	13	34	49.28	9.0
May 5			49.27	9.0

O. ARG. S. 13085.

May 30	13	36	3.70	

LACAILLE 5663.

April 21	13	36	58.47	6.6
May 5			58.48	6.3

i CENTAURI.

May 19	13	37	44.37	5.5

(*) — 34° 28′.

May 31	13	38	5.09	

O. ARG. S. 13149.

May 5	13	40	25.25	7.5

(*) — 29° 57′.

May 4	13	40	25.59	

WEISSE (2,) 854.

May 7	13	40	57.50	

O. ARG. S. 13156.

May 4	13	41	1.71	
5			1.38	6.7
20			1.68	
30			1.45	

g CENTAURI.

1864.	h.	m.	s.	Mag.
May 19	13	41	20.72	6.0

O. ARG. S. 13167.

April 21	13	41	59.82	7.5
May 31			59.75	7.3

O. ARG. S. 13169.

April 21	13	42	6.22	8.5
May 31			6.19	9.0

WEISSE (2,) 910.

May 7	13	43	7.49	

k CENTAURI.

May 19	13	43	45.32	6.0

(*) — 38° 23′.

May 31	13	45	9.08	8.5

WEISSE (2,) 978.

May 7	13	45	37.36	9.0

LACAILLE 5729.

May 4	13	45	44.94	
5			44.62	5.5

O. ARG. S. 13215.

May 30	13	45	48.98	

WEISSE (2,) 994.

May 7	13	46	17.59	8.0

O. ARG. S. 13243.

April 21	13	47	52.87	6.3
May 31			52.86	6.7

η BOOTIS.

Feb. 26	13	48	1.08	
May 4			1.06	
5			1.14	
19			1.11	
20			1.08	
30			1.06	
June 7			1.12	
Dec. 22			1.20	

WEISSE (2,) 1077.

May 7	13	49	28.43	

LACAILLE 5773.

April 21	13	50	5.38	6.5
May 19			5.44	7.0
June 13			5.46	6.6

RADCLIFFE 3117.

May 5	13	50	33.85	6.5

(*) — 36° 48′.

1864.	h.	m.	s.	Mag.
May 31	13	52	2.85	8.3

BRISBANE 4727.

May 30	13	52	48.04	

(*) — 38° 35′.

April 21	13	52	52.85	7.2

(*) + 76° 54′.

May 7	13	53	50.74	9.0

τ VIRGINIS.

Feb. 26	13	54	31.39	

(*) — 37° 7′.

April 21	13	55	40.97	7.5
May 31			40.93	7.8

O. ARG. S. 13357.

May 19	13	57	4.58	5.0
30			4.57	

LACAILLE 5812.

April 21	13	57	34.22	
June 3			34.30	8.5

94 VIRGINIS.

Feb. 26	13	58	53.21	

(*) — 26° 32′.

May 31	13	59	56.28	7.5

(*) — 32° 24′.

April 21	14	0	9.73	
May 19			9.77	
30			9.78	

(*) — 26° 33′.

June 3	14	1	3.76	7.2

(*) — 26° 33′.

June 3	14	1	7.49	7.6

(*) — 26° 44′.

May 31	14	2	16.71	6.8

LACAILLE 5839.

May 19	14	2	40.88	7.0

(*) — 26° 4′.

May 31	14	2	58.39	7.2

50 HYDRÆ.

1864.	h. m. s.	Mag.
May 30	14 4 45.19	
31	45.15	5.5
June 3	45.19	5.5

κ VIRGINIS.

Feb. 26	14 5 25.98	
May 7	25.89	
19	25.82	

LACAILLE 5872.

May 30	14 8 1.79	

α BOOTIS.

Feb. 26	14 9 16.66	
June 3	16.61	

LACAILLE 5883.

May 31	14 10 7.18	6.0

WEISSE 174.

May 7	14 10 38.72	

λ VIRGINIS.

Feb. 26	14 11 32.41	
April 21	32.33	
May 19	32.35	

O. ARG. S. 13541.

May 30	14 12 3.37	
31	3.25	6.8

WEISSE 209.

May 7	14 12 21.58	

O. ARG. S. 13561.

May 30	14 13 55.92	
31	55.86	6.2

(*) — 27° 30′.

May 31	14 15 44.31	7.3

2 LIBRÆ.

April 21	14 15 54.81	

LACAILLE 5923.

May 19	14 15 55.46	
30	55.40	

(*) — 27° 29′.

Feb. 26	14 17 5.87	
May 31	5 76	

LACAILLE 5932.

May 30	14 17 11.51	

O. ARG. S. 13626.

1864.	h. m. s.	Mag.
April 21	14 19 12.55	8.0

O. ARG. S. 13629.

Feb. 26	14 19 21.50	7.4
April 21	21.40	7.3

O. ARG. S. 13647.

Feb. 26	14 20 26.76	6.7
April 21	26.68	7.0
May 31	26.59	7.0

O. ARG. S. 13663.

May 17	14 21 27.71	7.0
30	27.59	

O. ARG. S. 13679.

May 31	14 22 38.73	7.0

(*) — 25° 32′.

May 30	14 22 49.27	

O. ARG. S. 13697.

April 21	14 23 57.80	7.0

O. ARG. S. 13702.

May 3	14 24 5.79	7.0

ρ BOOTIS.

Feb. 26	14 25 47.73	
27	47.73	
April 21	47.76	
May 17	47.72	
19	47.81	
30	47.78	
31	47.74	
June 15	47.80	

LALANDE 26560.

May 30	14 26 15.48	

O. ARG. S. 13757.

May 19	14 28 59.61	
31	59.42	7.5

O. ARG. S. 13799.

April 21	14 31 48.58	6.7
May 19	48.57	

O. ARG. S. 13813.

May 30	14 32 17.51	
31	17.43	6.3

O. ARG. S. 13814.

May 30	14 32 22.47	
31	22.36	8.8

O. ARG. S. 13847.

1864.	h. m. s.	Mag.
April 21	14 34 13.74	7.0

μ VIRGINIS.

Feb. 27	14 35 41.18	
April 22	41.17	

(*) — 25° 15′.

April 21	14 36 55.25	
May 30	55.33	

54 HYDRÆ.

May 31	14 37 54.14	5.0

B. A. C. 4865.

May 31	14 37 54.63	7.5

5 LIBRÆ.

Feb. 27	14 38 14.86	

ε BOOTIS.

May 17	14 38 52.31	
Nov. 30	52.36	
Dec. 29	52.39	

56 HYDRÆ.

April 21	14 39 34.80	5.0
May 19	34.96	
30	34.83	

(*) — 36° 49′.

May 31	14 41 22.34	8.0

8 LIBRÆ.

May 20	14 42 56.94	
30	56.86	
June 15	56.82	

α LIBRÆ.

Feb. 27	14 43 8.35	
April 21	8.28	
May 19	8.30	
20	8.34	
30	8.28	
June 15	8.27	
July 11	8.32	
Aug. 10	8.33	
Dec. 29	8.24	

B. A. C. 4912.

May 16	14 46 5.49	5.0
19	5.43	
31	5.32	

O. ARG. S. 14080.

May 16	14 48 44.92	
June 25	44.96	

(*) — 26° 15′.

1864.	h. m. s.	Mag.
May 31	14 48 45.52	
June 3	45.63	

ξ^2 LIBRÆ.

Feb. 27	14 49 10.55	

β URSÆ MINORIS.

May 19	14 51 9.75	
June 25	9.12	
July 13	9.13	

LACAILLE 6198.

May 31	14 54 25.62	5.5

20 LIBRÆ.

Feb. 27	14 66 52.98	

O. ARG. S. 14230.

May 19	14 57 33.84	
30	33.91	

(*) — 21° 53′.

June 3	14 57 58.55	7.5
25	58.44	6.7

ψ BOOTIS.

Feb. 27	14 58 26.80	
May 16	26.76	
20	26.77	
31	26.76	
June 13	26.84	
22	26.75	

O. ARG. S. 14279.

May 30	15 0 17.31	
June 3	17.31	

O. ARG. S. 14397.

May 30	15 1 2.94	

O. ARG. S. 14211.

June 13	15 2 2.34	
July 14	2.21	6.0

LACAILLE 6258.

May 31	15 3 5.00	6.5

i LIBRÆ.

Feb. 27	15 4 14.83	
May 19	14.74	
20	14.87	
July 13	14.84	
14	14.81	

O. ARG. S. 14349.

May 16	15 4 28.88	
June 3	28.85	7.7

O. ARG. S. 14366.

1864.	h.	m.	s.	Mag.
May 30	15	5	36.15	
June 13			36.15	

(*) — 25° 25′.

May 30	15	5	39.40	
June 13			39.30	

1 LUPI.

May 31	15	6	3.06	5.7

O. ARG. S. 14395.

May 19	15	7	17.63	

2 LUPI.

May 31	15	9	19.07	5.0

β LIBRÆ.

Feb. 27	15	9	28.67	
May 7			28.60	
21			28.68	
30			28.60	
June 3			28.52	
16			28.65	
17			28.58	
20			28.68	
22			28.57	
25			28.59	
28			28.62	
July 13			28.70	
14			28.62	

O. ARG. S. 14436.

May 16	15	10	17.03	

O. ARG. S. 14459.

May 16	15	11	45.86	

LALANDE 27907.

June 28	15	12	18.55	9.0

O. ARG. S. 14466.

June 14	15	12	23.09	

(*) — 37° 42′.

June 25	15	12	29.31	7.0

LACAILLE 6342.

July 14	15	13	30.34	

ϕ^2 LUPI.

May 7	15	14	13.16	

O. ARG. S. 14513.

May 16	15	16	1.92	
June 25			1.75	8.5

O. ARG. S. 14531.

1864.	h.	m.	s.	Mag.
June 16	15	16	50.04	7.6
July 13			50.07	7.6

(* 117) W.

May 5	15	16	56.29	8.3
June 28			56.10	8.3

LACAILLE 6368.

May 31	25	16	57.10	7.6

O. ARG. S. 14533.

June 13	15	17	14.41	
14			14.34	

O. ARG. S. 14548.

June 14	15	18	22.84	

O. ARG. S. 14554.

May 30	15	18	35.32	
June 3			35.40	8.0
25			35.28	7.5
July 13			35.40	8.0
14			35.33	7.2

μ BOOTIS.

June 7	15	19	12.14	
13			12.14	
15			12.18	

WEISSE (2,) 414.

June 15	15	19	13.48	

LACAILLE 6388.

May 31	15	20	15.59	6.8

ζ^1 LIBRÆ.

June 16	15	20	22.02	

O. ARG. N. 15370.

May 7	15	21	20.55	

LACAILLE 6405.

May 19	15	22	29.71	

(*) — 23° 11′.

June 16	15	22	53.79	7.3
28			53.58	8.0

LACAILLE 6409.

June 14	15	23	5.68	
July 13			5.90	7.0
14			5.85	6.0

B. A. C. 5140, S. P.

Jan. 12	15	24	0.57	

O. ARG. S. 14624.

1864.	h.	m.	s.	Mag.
April 23	15	24	1.29	7.0
May 5			1.38	6.0

WEISSE 444.

May 30	15	24	43.17	
June 28			43.12	7.8

O. ARG. S. 14636.

May 16	15	24	47.03	
June 17			47.12	

LACAILLE 6415.

June 16	15	24	48.30	7.5

LACAILLE 6421.

May 19	15	25	24.03	

LACAILLE 6439.

June 28	15	27	24.73	6.0
July 13			24.93	6.0

γ LIBRÆ.

April 23	15	27	41.98	4.3
June 16			41.95	
17			41.93	
July 14			41.92	4.5

O. ARG. S. 14687.

June 7	15	28	32.04	6.0

α CORONÆ BOREALIS.

May 6	15	28	45.65	
16			45.71	
17			45.72	
19			45.71	
30			45.74	
June 3			45.77	
Aug. 10			45.68	
Nov. 30			45.60	

O. ARG. S. 14701.

May 31	15	29	4.82	6.0
July 13			5.06	6.7

(*) — 21° 39′.

June 25	15	29	20.66	7.0
28			20.67	6.3

O. ARG. S. 14710.

April 23	15	29	45.47	6.2
May 5			45.40	6.5

RADCLIFFE 3415.

May 7	15	30	58.15	

RADCLIFFE 3416.

1864.	h.	m.	s.	Mag.
May 7	15	31	3.83	

LACAILLE 6473.

July 13	15	31	34.87	6.5
14			34.83	6.5

LACAILLE 6471.

May 5	15	31	50.28	
16			50.45	
31			50.12	7.0
June 14			50.32	
25			50.35	6.0

κ LIBRÆ.

Mar. 27	15	33	53.08	
April 23			53.03	5.0
July 14			53.10	5.0

LACAILLE 6491.

June 7	15	33	54.76	7.0
July 13			54.82	7.0

(*) + 80° 14′.

June 28	15	34	20.25	9.0

α SERPENTIS.

Mar. 27	15	37	22.52	
April 23			22.51	
May 5			22.55	
31			22.47	
June 25			22.50	

O. ARG. S. 14839.

May 6	15	37	29.07	
June 17			29.17	
July 13			29.11	

B. A. C. 5198.

May 19	15	37	41.70	

O. ARG. S. 14871.

June 7	15	38	58.93	
20			59.02	

(*) — 20° 48′.

June 28	15	39	21.59	8.2
July 13			21.67	7.8

O. ARG. S. 14878.

June 20	15	39	31.05	

B. A. C. 5220.

May 19	15	40	9.09	
June 25			8.93	6.5

O. ARG. S. 14904.

May 5	15	40	43.38	9.3

O. ARG. S. 14925.

1864.	h.	m.	s.	Mag.
April 23	15	42	8.94	6.0
June 7			9.00	6.5
25			8.97	6.5
28			8.96	6.7

O. ARG. S. 14933.

June 17	15	42	33.94	

B. A. C. 5240.

May 19	15	43	34.63	

ε SERPENTIS.

Mar. 27	15	43	50.31	
May 6			50.44	
June 16			50.37	
20			50.30	
July 13			50.39	

(*) — 21° 35′.

May 5	15	45	8.85	8.2
June 25			8.90	7.6
July 13			8.90	8.5

λ LIBRÆ.

April 23	15	45	12.69	5.5
July 14			12.68	

B. A. C. 5253.

May 19	15	45	32.42	

O. ARG. S. 15023.

Mar. 27	15	47	38.53	
April 23			38.50	7.0
June 28			38.69	7.7

(*) — 21° 49′.

June 20	15	48	36.70	
25			36.49	8.0
July 13			36.60	8.4

B. A. C. 5281.

May 7	15	49	29.80	
June 10			29.81	
16			29.78	6.5

O. ARG. S. 15072.

June 16	15	50	19.98	7.7

π SCORPII.

Mar. 27	15	50	23.26	4.0
April 23			23.21	3.0
June 28			23.41	3.0
July 14			23.31	3.5

B. A. C. 5296.

June 20	15	50	57.72	
25			57.55	6.0
July 13			57.54	

LACAILLE 6624.

1864.	h.	m.	s.	Mag.
May 19	15	51	0.06	

δ SCORPII.

April 23	15	52	3.60	3.0
May 5			3.60	
7			3.58	
June 7			3.62	
July 14			3.66	
15			3.66	

O. ARG. S. 15112.

June 25	15	52	45.85	(6.0)
July 13			45.97	7.2

B. A. C. 5308.

May 19	15	53	59.52	
June 16			59.53	

O. ARG. S. 15147.

June 20	15	54	35.40	

O. ARG. S. 15183.

July 13	15	56	35.60	

O. ARG. S. 15191.

July 13	15	56	58.48	

O. ARG. S. 15194.

June 16	15	57	13.03	
25			12.98	6.5
28			12.94	8.0

β SCORPII.

Mar. 27	15	57	18.08	
April 23			18.00	
May 7			18.14	
19			18.02	
20			18.09	
21			18.04	
June 7			18.10	
July 2			18.15	
14			18.05	
15			18.10	

B. A. C. 5330.

Mar. 27	15	57	18.40	
May 7			18.44	
20			18.48	
July 2			18.48	
14			18.47	
15			18.49	

O. ARG. S. 15205.

June 20	15	57	45.69	
July 13			45.74	6.0

O. ARG. S. 15271.

June 20	16	0	18.60	
25			18.43	8.0
28			18.48	8.5
July 13			18.46	8.2

LACAILLE 6703.

1864.	h.	m.	s.	Mag.
July 14	16	0	42.74	7.0

LACAILLE 6716.

July 14	16	1	42.11	7.7

B. A. C. 5364.

Mar. 27	16	1	42.95	8.2
June 16			43.02	
July 2			43.03	7.0

c^2 SCORPII.

Mar. 27	16	3	41.02	6.7
April 23			41.03	5.0
June 25			41.13	5.0

O. ARG. S. 15360.

May 20	16	3	50.71	

ν SCORPII.

May 20	16	3	51.80	
21			51.66	

O. ARG. S. 15359.

June 20	16	3	54.21	
28			53.96	8.3
July 2			54.10	8.5

O. ARG. S. 15388.

May 5	16	5	4.82	
June 20			5.06	
28			4.90	8.0
July 2			4.89	8.0

B. A. C. 5394.

June 16	16	5	20.61	
July 13			20.67	6.7
14			20.46	7.3

O. ARG. S. 15401.

July 15	16	5	39.08	

O. ARG. S. 15416.

Mar. 27	16	6	15.23	7.5
June 25			15.18	6.0

δ OPHIUCHI.

May 5	16	7	0.73	
20			0.75	
June 16			0.69	
17			0.75	
28			0.79	

WEISSE 113.

July 14	16	7	5.83	

O. ARG. S. 15452.

June 20	16	8	7.80	
25			7.47	7.5
July 2			7.54	7.6

O. ARG. S. 15466.

1864.	h.	m.	s.	Mag.
Mar. 27	16	8	44.04	7.7
April 23			43.99	6.0
July 13			44.12	7.3

(*) — 30° 7′.

May 5	16	10	6.46	8.3
June 28			6.46	8.6

(*) — 30° 5′.

June 25	16	10	16.38	8.2
28			16.56	8.5
July 13			16.60	8.4

WEISSE 221.

July 8	16	12	3.84	9.5

O. ARG. N. 16057.

July 14	16	12	22.48	7.0

LACAILLE 6796.

July 13	16	12	25.98	7.0

LACAILLE 6797.

July 13	16	12	34.09	7.0

σ SCORPII.

Mar. 27	16	12	40.96	
April 23			40.93	
June 17			41.06	
18			41.04	

(*) + 79° 36′.

July 2	16	13	3.48	9.5

(*) + 79° 36′.

July 2	16	13	27.02	9.7

O. ARG. S. 15566.

June 16	16	14	29.98	
20			30.13	
25			29.90	7.5
28			30.02	7.8

LACAILLE 6818.

July 14	16	15	22.19	7.0

O. ARG. S. 15590.

April 23	16	15	54.78	5.0
June 28			54.83	5.0
July 13			54.90	5.5

B. A. C. 5476.

June 16	16	17	0.70	
20			0.88	
25			0.68	
July 5			0.66	7.5

O. ARG. S. 15643.

1864.	h. m. s.	Mag.
June 16	16 18 44.46	
20	44.65	
28	44.49	7.0
July 13	44.51	7.4

χ OPHIUCHI.

July 15	16 18 54.80	

O. ARG. S. 15659.

June 16	16 20 31.90	
20	32.11	

a SCORPII.

Mar. 27	16 20 49.71	
April 23	49.68	
May 19	49.73	
June 17	49.76	
25	49.66	
July 14	49.78	

O. ARG. S. 15694.

June 16	16 22 53.93	
28	53.82	8.3
July 6	53.76	8.3

ϕ OPHIUCHI.

July 15	16 23 7.71	

O. ARG. S. 15712

July 4	16 24 6.38	8.3
14	6.39	9.2

B. A. C. 5522.

July 13	16 24 6.39	7.2

O. ARG. S. 15713.

June 25	16 24 10.89	8.0
July 4	10.87	
14	10.90	

LACAILLE 6891.

July 13	16 27 8.07	8.3

B. A. C. 5538.

June 28	16 27 10.10	3.5

(* 67 W.) — 4° 7′.

July 6	16 27 45.16	9.2
15	45.07	9.5

A DRACONIS.

July 14	16 28 16.19	

WEISSE 539.

Aug. 10	16 28 54.86	7.0

ζ OPHIUCHI.

1864.	h. m. s.	Mag.
July 2	16 29 27.15	
4	27.08	
6	27.07	
8	27.14	

O. ARG. S. 15783.

June 16	16 29 56.45	
20	56.41	
25	56.20	7.3

WEISSE 562.

July 13	16 30 3.85	8.8

WEISSE 575.

July 13	16 30 37.89	8.1

O. ARG. S. 15804.

June 16	16 31 24.93	
20	24.80	

O. ARG. S. 15834.

July 2	16 32 57.76	8.5

O. ARG. S. 15836.

June 25	16 33 7.17	6.2
28	7.25	7.3
July 2	7.25	7.0
6	7.24	6.5

WEISSE 637.

July 13	16 33 32.40	9.0
14	32.25	9.2
15	32.36	9.6

O. ARG. S. 15881.

June 20	16 35 21.55	
25	21.51	7.2
July 2	21.56	8.0
6	21.53	7.6

B. A. C. 5600.

July 8	16 35 36.48	7.0

ζ HERCULIS.

June 16	16 36 0.51	
Aug. 10	0.57	

B. A. C. 5605.

July 13	16 36 24.37	

B. A. C. 5612.

July 13	16 37 55.14	
14	55.05	7.2

O. ARG. S. 15950.

May 31	16 39 8.26	7.5
June 16	8.39	
25	8.37	7.2
July 2	8.46	7.5

O. ARG. S. 15977.

1864.	h. m. s.	Mag.
July 15	16 40 27.62	7.8

B. A. C. 5630.

July 13	16 40 34.50	6.8
14	34.38	6.5

18 OPHIUCHI.

July 15	16 41 13.30	
Aug. 10	13.34	

(*) — 4° 5′.

July 2	16 41 32.51	10.0

WEISSE 792.

May 31	16 41 44.83	9.0

(*) — 4° 55′.

July 14	16 43 55.17	9.0

O. ARG. S. 16043.

June 16	16 44 9.02	
20	9.04	
25	8.89	8.5

WEISSE 845.

July 2	16 44 21.42	7.8
13	21.46	7.6
15	21.43	8.0

WEISSE 854.

May 22	16 44 46.72	7.3
31	46.54	7.0
July 6	46.77	7.3

WEISSE 859.

July 14	16 45 4.46	7.3

O. ARG. S. 16076.

June 16	16 45 42.29	
20	42.44	

B. A. C. 5678.

June 25	16 46 9.82	
July 2	10.04	6.3
15	9.92	7.0
Aug. 10	9.91	

O. ARG. S. 16100.

July 13	16 46 42.39	7.0
14	42.32	7.7

B. A. C. 5684.

May 31	16 46 52.88	
July 2	52.95	7.0
6	52.94	7.0

(*) — 31° 17′.

1864.	h. m. s.	Mag.
July 2	16 47 14.27	7.6
6	14.30	7.3
Aug. 10	14.38	

WEISSE 958.

Jnly 2	16 50 55.65	8.0
13	55.72	8.2
15	55.68	8.2

κ OPHIUCHI.

May 22	16 51 2.54	
31	2.54	
June 20	2.62	
25	2.67	
28	2.63	
July 6	2.56	

WEISSE 981.

July 13	16 52 26.16	
14	26.03	
Aug. 12	26.06	

B. A. C. 5718.

June 28	16 52 49.71	5.0

B. A. C. 5721.

July 6	16 53 23.93	

30 OPHIUCHI.

July 2	16 53 40.69	6.0
13	40.70	5.6

O. ARG. S. 16233.

June 20	16 53 44.71	
25	44.54	7.0

WEISSE 1011.

July 2	16 53 55.21	8.6
13	55.21	

B. A. C. 5730.

May 31	16 54 58.65	6.7
July 15	58.92	7.5

(*) — 4° 55′.

July 4	16 55 1.14	8.0

O. ARG. S. 16256.

June 16	16 55 5.85	
Aug. 10	5.83	7.2

O. ARG. S. 16262.

June 28	16 55 19.15	7.5

(*) — 28° 43′.

June 25	16 55 57.44	9.0

O. ARG. S. 16302.

1864.			h. m.	s.	Mag.
June	20	. .	16 57	7.03	
	25	. .		6.78	7.0

DORPAT 2119, (1st *.)

July	2	. .	16 58	34.48	
	13	. .		34.46	

DORPAT 2119, (2d *.)

July	2	. .	16 58	34.48	
	13	. .		34.53	

B. A. C. 5768.

July	4	. .	16 59	51.05	5.7
	15	. .		51.19	6.0
Aug.	12	. .		51.19	

ε URSÆ MINORIS.

June	25	. .	17 0	26.98	
Aug.	10	. .		26.79	

O. ARG. S. 16420.

June	28	. .	17 2	55.27	7.5
July	2	. .		55.28	7.5
	13	. .		55.22	7.5

η OPHIUCHI.

Mar.	1	. .	17 3	21.04	
June	18	. .		21.26	
July	15	. .		21.12	

WEISSE 46.

May	31	. .	17 4	18.48	7.0
June	16	. .		18.55	
	20	. .		18.72	
July	14	. .		18.44	7.0

B. A. C. 5796.

Aug.	12	. .	17 4	39.29	6.0

O. ARG. N. 16862.

July	25	. .	17 4	51.18	
Aug.	10	.		51.26	6.7

(*) — 33° 35′.

July	15	. .	17 5	47.59	7.2

O. ARG. S. 16505.

July	13	.	17 6	31.87	8.2

O. ARG. S. 16511.

Aug.	12	. .	17 6	33.22	6.5

B. A. C. 5807.

July	15	. .	17 6	38.67	6.5

A OPHIUCHI, (1st *.)

1864.			h. m.	s.	Mag.
Mar.	1	. .	17 6	44.15	
July	2	. .		44.34	
	13	. .		44.19	

A OPHIUCHI, (2d *)

Mar.	1	. .	17 6	44.33	
July	2	. .		44.54	
	13	. .		44.52	

α HERCULIS, (1st *.)

Jan.	10	. .	17 8	15.89	
	11	. .		15.93	
	15	. .		15.85	
May	31	. .		15.89	
June	25	.		15.92	
July	13	. .		15.84	
	14	. .		15.85	
	25	. .		15.87	

α HERCULIS, (2d *.)

June	25	. .	17 8	16.24	
July	14	. .		16.12	
	25	. .		16.08	
Oct.	25	. .		15.93	
Nov.	10	. .		15.85	

O. ARG. S. 16563, (1st *.)

June	28	. .	17 8	57.54	

O. ARG. S. 16563, (2d *.)

June	28	. .	17 8	57.72	8.0
July	2	. .		57.72	7.5
	15	. .		57.68	

B. A. C. 5833.

June	16	. .	17 10	14.78	
	20	. .		14.93	

WEISSE 186.

June	16	. .	17 11	33.34	

DORPAT 2147.

July	4	. .	17 12	27.76	9.5
	13	. .		27.79	9.5

LALANDE 31469.

July	25	. .	17 12	36.91	6.0

θ OPHIUCHI.

May	22	. .	17 13	24.86	
July	15	. .		24.91	
Aug.	12	. .		24.88	4.0

(*) — 31° 24′.

July	6	. .	17 14	28.77	7.5
Aug.	10	. .		28.71	7.5

LALANDE 31556.

June	20	. .	17 14	45.08	
July	2	. .		44.93	7.5

WEISSE 254.

1864.			h. m.	s.	Mag.
July	25	. .	17 15	11.76	8.5

B. A. C. 5868.

May	22	. .	17 16	32.88	7.0
June	16	. .		32.97	
	29	. .		32.96	
July	15	. .		32.99	6.0
Aug.	12	. .		32.96	6.0

b OPHIUCHI.

May	24	. .	17 17	49.36	
June	16	. .		49.40	
	29	. .		49.31	
July	6	. .		49.33	
	13	. .		49.31	
	15	. .		49.35	
	16	. .		49.40	
Aug.	12	. .		49.41	

B. A. C. 5892.

July	2	. .	17 19	38.38	7.5
	4	. .		38.24	7.6

O. ARG. S. 16816.

July	6	. .	17 19	55.25	8.0
	15	. .		55.30	8.0
	25	. .		55.19	8.7

O. ARG. S. 16844.

June	20	. .	17 21	28.27	
July	4	. .		28.02	7.6
	13	. .		28.15	7.3

c^2 OPHIUCHI.

July	16	. .	17 22	52.67	
Aug.	12	. .		52.58	

(*) — 31° 43′.

July	6	. .	17 22	56.43	8.3
	15	. .		56.55	8.7

LACAILLE 7330.

May	22	. .	17 23	8.40	6.0

B. A. C. 5914.

July	25	. .	17 23	55.07	7.0

B. A. C. 5924.

May	22	. .	17 25	33.53	

(*) — 38° 33′.

July	15	. .	17 26	2.97	8.0

B. A. C. 5932.

July	15	. .	17 26	54.44	
Aug.	12	. .		54.51	5.0

α OPHIUCHI.

1864.			h. m.	s.	Mag.
Jan.	8	. .	17 28	26.18	
	10	. .		26.17	
	11	. .		26.20	
	15	. .		26.18	
	22	. .		26.13	
	25	. .		26.16	
July	4	. .		26.16	
	16	. .		26.11	
Oct.	25	. .		26.24	
	29	. .		26.27	
Nov.	10	. .		26.17	
Dec.	29	. .		26.23	

O. ARG. S. 16990.

June	28	. .	17 28	53.88	8.2
July	2	. .		53.64	7.8
	25	. .		53.70	7.7

(*) — 27° 57′.

June	29	. .	17 29	22.91	6.0
July	6	. .		22.76	7.0
Aug.	10	. .		22.90	8.7

B. A. C. 5960.

July	15	. .	17 30	53.71	6.5
Aug.	12	. .		53.78	7.6

(*) — 32° 5′.

Aug.	12	. .	17 31	3.61	7.0

(*) — 32° 7′.

Aug.	12	. .	17 31	36.22	7.0

B. A. C. 5964.

July	15	. .	17 31	51.13	6.5

RUMKER 5943.

July	6	. .	17 33	0.06	

o SERPENTIS.

July	16	. .	17 33	32.85	

O. ARG. S. 17094.

April	36	. .	17 33	50.36	7.0
June	28	. .		50.62	7.9
July	2	. .		50.55	7.3
	4	. .		50.60	8.0

B. A. C. 5977.

Aug.	10	. .	17 33	55.52	6.0

B. A. C. 5980.

July	15	. .	17 34	25.55	6.5

B. A. C. 5983.

July	25	. .	17 34	31.51	7.0

O. ARG. S. 17130.

1864.	h. m. s.	Mag.
June 29	17 35 45.56	6.6
July 2	45.57	

LACAILLE 7420.

April 12	17 36 48.03	7.0

DORPAT 2204, (1st *.)

April 26	17 38 26.88	7.6
July 4	26.71	7.8
6	26.76	7.5

DORPAT 2204, (2d *.)

April 26	17 38 27.11	7.5
July 4	27.09	
6	27.18	7.7

B. A. C. 6011.

July 15	17 39 7.15	7.0

O. ARG. S. 17209.

June 28	17 39 10.13	7.5
July 25	10.16	6.8

LACAILLE 7448.

Aug. 12	17 40 6.28	6.7

μ HERCULIS.

June 29	17 40 58.83	
July 2	58.84	
6	58.86	
8	58.73	
16	58.79	
29	58.77	

B. A. C. 6023.

June 28	17 41 23.76	7.0
July 4	23.76	6.0
Aug. 10	23.82	6.5

(*) — 35° 17′.

Aug. 12	17 41 43.44	6.8

(*) — 28° 34′.

July 25	17 42 11.21	8.5
Aug. 3	11.41	8.3

(*) — 28° 35′.

June 28	17 43 0.58	8.0
July 25	0.54	8.0

B. A. C. 6032.

May 22	17 43 13.26	7.0

(*) — 34° 58′.

Aug. 12	17 43 34.15	6.2

B. A. C. 6038.

1864.	h. m. s.	Mag.
Aug. 12	17 44 2.21	7.0

B. A. C. 6043.

Aug. 10	17 44 34.80	6.0

(*) — 36° 20′.

Aug. 3	17 44 50.81	8.0

WEISSE 905.

April 26	17 45 22.97	7.0
July 2	22.98	7.8
4	22.90	7.8
6	22.92	7.8
29	22.98	8.0

B. A. C. 6051.

Aug. 3	17 45 39.59	5.0

O. ARG. S. 17339.

June 28	17 46 18.59	8.8
29	18.65	7.8
July 8	18.54	8.5

B. A. C. 6057.

July 25	17 47 6.66	6.7
Aug. 12	6.67	6.0

O. ARG. S. 17376.

April 26	17 47 58.52	7.8
May 22	58.38	7.5
June 28	58.46	8.0
July 6	58.44	8.0
8	58.49	8.0

B. A. C. 6072.

June 28	17 49 46.24	6.5
29	46.14	5.7
July 8	46.21	6.5

DORPAT 2244.

Aug. 12	17 49 54.07	7.0

B. A. C. 6074, (1st *.)

July 25	17 50 5.76	5.0

B. A. C. 6074, (2d *.)

July 25	17 50 6.09	7.8

DORPAT 2245, (1st *.)

April 26	17 50 15.94	
July 2	16.00	7.8
4	15.93	
6	15.95	
29	15.88	

DORPAT 2245, (2d *)

April 26	17 50 16.14	
July 2	16.14	7.8
4	16.07	
6	16.12	
29	16.14	

O. ARG. S. 17443.

Aug. 3	17 51 9.37	7.0
31	9.42	8.0

4 SAGITTARII.

May 22	17 51 14.59	
July 16	14.82	

O. ARG. N. 17680.

Aug. 10	17 51 59.37	

B. A. C. 6083.

Aug. 1	17 52 20.19	6.8

(*) — 0° 3′.

July 2	17 52 21.45	8.5
6	21.40	8.3

O. ARG. S. 17506, (1st *.)

June 28	17 53 53.25	9.5
July 4	53.21	9.0
8	53.23	8.6

O. ARG. S. 17506, (2d *.)

June 28	17 53 53.72	8.5
July 4	53.56	8.5
8	53.63	8.8
25	53.61	8.3

(*) — 22° 50′.

May 22	17 55 26.79	7.0
July 8	26.81	7.8
25	26.63	7.8

95 HERCULIS, (1st *.)

July 6	17 55 33.65	
15	33.60	5.5
16	33.57	
29	33.68	

95 HERCULIS, (2d *.)

July 6	17 55 34.15	
15	34.10	5.5
16	34.14	
29	34.09	

LACAILLE 7551.

Aug. 1	17 56 15.39	7.0

γ^2 SAGITTARII.

Aug. 3	17 56 49.00	
10	48.91	
12	48.96	
31	48.94	

70 OPHIUCHI, (1st *)

1864.	h. m. s.	Mag.
July 2	17 58 22.83	
4	22.71	
15	22.69	5.0

70 OPHIUCHI, (2d *.)

July 2	17 58 23.20	
4	23.08	
15	23.23	

O. ARG. S. 17648.

May 22	17 58 57.20	7.5

B. A. C. 6131.

Aug. 3	17 59 55.62	7.3

O. ARG. S. 17681.

May 22	18 0 5.23	7.0
June 28	5.33	7.0
July 6	5.29	8.0
25	5.29	7.0

O. ARG. S. 17728.

Aug. 10	18 1 20.64	8.5
12	20.56	8.5

WEISSE 18.

July 15	18 2 25.88	9.0
29	25.87	8.5

DORPAT 2281.

April 26	18 2 36.25	
July 25	36.18	6.5

B. A. C. 6160.

July 4	18 3 4.33	7.0
Aug. 1	4.41	
12	4.36	6.7

DORPAT 2288.

Aug. 3	18 3 21.15	8.0

(*) — 23° 9′.

July 6	18 4 32.22	
Aug. 31	32.34	7.8

μ SAGITTARII.

April 26	18 5 23.44	
June 28	23.51	
29	23.54	
July 2	23.45	
4	23.29	
8	23.43	
11	23.40	
16	23.56	
25	23.41	
29	23.52	
Aug. 1	23.45	
29	23.55	5.5

(*) — 18° 59′.

1864.	h. m. s.	Mag.
Aug. 3 . .	18 6 10.69	9.2

O. ARG. S. 17892.

Aug. 3 . .	18 6 45.63	8.0
12 . .	45.71	7.7

O. ARG. S. 17905.

July 6 . .	18 7 1.99	7.8
8 . .	2.00	8.0

O. ARG. S. 17916.

Aug. 3 . .	18 7 13.38	
12 . .	13.35	8.0

B. A. C. 6182.

Aug. 1 . .	18 7 14.59	7.0

(*) — 28° 46′.

Aug. 31 . .	18 7 26.62	7.5

O. ARG. S. 17928.

Aug. 3 . .	18 7 30.63	
12 . .	30.67	8.0

(*) — 19° 0′.

Aug. 3 . .	18 8 10.94	

B. A. C. 6188.

Aug. 1 . .	18 8 12.12	7.0

O. ARG. S. 17965.

Aug. 12 . .	18 8 43.92	7.5

O. ARG. S. 18015.

April 26 . .	18 10 29.94	
July 29 . .	29.91	8.0

O. ARG. S. 18017.

July 29 . .	18 10 30.94	7.5

B. A. C. 6202.

Aug. 1 . .	18 11 22.45	6.7

O. ARG. S. 18044.

July 6 . .	18 11 23.97	8.0
8 . .	24.04	8.0

(*) — 28° 25′.

July 25 . .	18 12 9.02	8.8

B. A. C. 6220.

July 25 . .	18 13 8.48	
Aug. 1 . .	8.60	
29 . .	8.61	6.6

B. A. C. 6222.

1864.	h. m. s.	Mag.
July 6 . .	18 13 33.62	7.5
8 . .	33.79	7.3

η SERPENTIS.

July 17 . .	18 14 3.93	

B. A. C. 6266.

Aug. 1 . .	18 19 37.61	7.0
3 . .	37.59	

O. ARG. S. 18248.

July 29 . .	18 19 46.30	

B. A. C. 6279.

June 20 . .	18 21 13.00	

B. A. C. 6284.

June 20 . .	18 21 47.64	

B. A. C. 6286.

July 6 . .	18 21 58.76	
25 . .	58.81	7.0

O. ARG. S. 18314.

Aug. 1 . .	18 22 36.58	8.0
10 . .	36.53	8.5

B. A. C. 6292.

Aug. 3 . .	18 23 6.10	7.0
— . .	6.24	7.2

B. A. C. 6310.

July 5 . .	18 25 14.93	
6 . .	14.80	
25 . .	14.76	6.0
Aug. 1 . .	14.83	7.5
3 . .	14.86	7.0
29 . .	14.96	7.2

(*) — 31° 0′.

July 6 . .	18 25 23.01	
Aug. 3 . .	22.96	

O. ARG. S. 18395.

July 29 . .	18 25 53.01	

1 AQUILÆ.

May 22 . .	18 27 35.24	
June 20 . .	35.19	
21 . .	35.28	
28 . .	35.16	
July 2 . .	35.24	
4 . .	35.21	
5 . .	35.27	
11 . .	35.23	
14 . .	35.28	
17 . .	35.27	
25 . .	35.21	
Aug. 10 . .	35.28	
12 . .	35.34	
31 . .	35.36	

B. A. C. 6334.

1864.	h. m. s.	Mag.
Aug. 29 . .	18 29 10.51	7.0

O. ARG. S. 18486.

July 11 . .	18 29 56.87	8.0
29 . .	57.00	7.0

B. A. C. 6346.

June 21 . .	18 30 32.27	7.5
28 . .	32.22	7.0
July 11 . .	32.30	7.3

O. ARG. S. 18505.

July 2 . .	18 31 9.64	
15 . .	9.65	8.7
Aug. 31 . .	9.58	8.5

O. ARG. S. 18506, (1st *.)

July 2 . .	18 31 13.25	
15 . .	13.12	9.0
Aug. 31 . .	13.08	8.8

O. ARG. S. 18506, (2d *.)

July 2 . .	18 31 13.48	
15 . .	13.50	6.0
Aug. 31 . .	13.45	8.5

α LYRÆ.

Jan. 11 . .	18 32 11.87	
15 . .	11.93	
21 . .	11.90	
22 . .	11.86	
24 . .	11.90	
25 . .	11.87	
27 . .	11.87	
28 . .	11.84	
Feb. 4 . .	11.91	
10 . .	11.86	
12 . .	11.97	
Oct. 25 . .	11.98	
29 . .	11.95	
Nov. 10 . .	11.92	
Dec. 1 . .	11.98	

26 SAGITTARII.

June 28 . .	18 33 19.19	5.5
July 5 . .	19.08	5.6

O. ARG. S. 18564.

Aug. 1 . .	18 34 6.60	7.5
31 . .	6.57	7.2

B. A. C. 6361.

Aug. 29 . .	18 34 36.44	5.3

O. ARG. S. 18577.

July 16 . .	18 34 40.22	5.7
29 . .	40.14	

O. ARG. S. 18584.

July 16 . .	18 35 3.51	8.0

O. ARG. S. 18604.

1864.	h. m. s.	Mag.
June 28 . .	18 35 53.62	6.5
Aug. 21 . .	53.65	7.0

O. ARG. S. 18609.

July 8 . .	18 36 16.98	8.0

O. ARG. N. 18534.

July 15 . .	18 36 46.92	8.0

ϕ SAGITTARII.

July 17 . .	18 36 54.55	

O. ARG. S. 18623.

July 8 . .	18 36 57.11	7.3
29 . .	57.11	6.7

O. ARG. S. 18625.

Aug. 1 . .	18 36 57.57	7.3

(*) — 72° 15′.

July 15 . .	18 38 23.39	7.5

B. A. C. 6382.

June 28 . .	18 38 47.51	7.0
July 5 . .	47.61	8.4
8 . .	47.49	8.0

5 AQUILÆ, (1st *.)

July 16 . .	18 39 14.80	

5 AQUILÆ, (2d *.)

July 16 . .	18 39 15.62	

LALANDE 34860.

Aug. 31 . .	18 39 58.79	7.2

(*) — 6° 9′.

July 2 . .	18 41 8.25	10.0

DORPAT 2391.

July 2 . .	18 41 9.50	7.0
15 . .	9.48	7.0

LALANDE 34916.

June 28 . .	18 41 21.17	7.0
July 5 . .	21.04	6.0

29 SAGITTARII.

July 17 . .	18 41 21.61	

(*) — 19° 18′.

July 29 . .	18 41 39.67	

B. A. C. 6403.

1864.			h. m. s.	Mag.
Aug.	1	. .	18 41 57.21	7.0
	12	. .	57.26	7.0

(*) — 30° 52′.

July	11	. .	18 41 59.28	8.5

B. A. C. 6414.

June	21	. .	18 43 42.17	7.0
	28	. .	42.22	6.5
July	2	. .	42.10	6.5
	8	. .	42.23	6.5
	11	. .	42.19	
Aug.	12	. .	42.20	6.0
	29	. .	42.23	
	31	. .	42.20	6.5

β Lyræ.

Jan.	13	. .	18 44 54.66	
	15	. .	54.12	
	25	. .	54.65	
July	6	. .	54.68	
	8	. .	54.62	
	13	. .	54.69	
Nov.	10	. .	54.73	

Weisse 1143.

Aug.	3	. .	18 45 28.67	9.0

33 Sagittarii.

July	8	. .	18 45 37.95	6.0

ν^1 Sagittarii.

June	28	. .	18 45 42.86	4.5

σ Sagittarii.

June	20	. .	18 46 35.03	
July	5	. .	34.95	
	15	. .	35.00	
	16	. .	35.00	
	17	. .	34.98	
Aug.	29	. .	35.05	
	31	. .	34.94	

(*) — 7° 30′.

July	29	. .	18 46 38.84	
	30	. .	38.87	

ν^2 Sagittarii.

June	20	. .	18 46 39.24	
	28	. .	39.27	5.0

Weisse 1219.

July	2	. .	18 48 24.35	9.5

Dorpat 2417, (1st *.)

June	20	. .	18 49 15.54	

Dorpat 2417, (2d *.)

June	20	. .	18 49 17.10	

(*) — 19° 21′.

1864.			h. m. s.	Mag.
June	20	. .	18 49 21.81	
	28	. .	21.84	6.0
July	8	. .	21.79	7.3

ξ^2 Sagittarii.

May	23	. .	18 49 22.58	
July	17	. .	22.67	

O. Arg. S. 18883.

July	5	. .	18 49 23.40	8.5

Rumker 6881.

Aug.	1	. .	18 50 41.83	7.3

O. Arg. S. 18916.

Aug,	3	. .	18 51 12.45	8.0
	29	. .	12.59	8.2
	31	. .	12.43	8.0

O. Arg. S. 18915.

July	11	. .	18 51 13.65	8.5

Weisse 1299.

July	2	. .	18 51 27.88	8.2

O. Arg. S. 18939.

July	8	. .	18 52 15.85	8.5
	25	. .	15.81	9.0

Dorpat 2425, (Sd.)

June	20	. .	18 52 57.54	
July	29	. .	57.36	

Dorpat 2425, (Nd.)

June	20	. .	18 52 57.54	
July	29	. .	57.46	

B. A. C. 6485.

Aug.	12	. .	18 53 11.18	6.7

ζ Sagittarii.

Aug.	31	. .	18 53 41.99	3.0

Lalande 35468.

Aug.	1	. .	18 54 0.23	7.5

Lalande 35497.

June	21	. .	18 54 49.91	7.0
	28	. .	49.97	6.0
July	8	. .	49.96	6.7
	25	. .	49.96	6.5

Weisse 1398.

Aug.	3	. .	18 55 29.22	9.0
	29	. .	29.31	9.0

Dorpat 2434, (1st *.)

1864.			h. m. s.	Mag.
July	2	. .	18 55 31.77	8.2
	11	. .	31.73	
	29	. .	31.78	

Dorpat 2434, (2d *.)

July	2	. .	18 55 32.89	8.4
	11	. .	32.94	

O. Arg. S. 19007.

July	4	. .	18 55 50.81	8.5
	5	. .	51.01	8.0

Weisse 1412.

Aug.	3	. .	18 55 55.29	8.9
	29	. .	55.40	8.5

B. A. C. 6505.

Aug.	31	. .	18 56 9.80	6.5

(*) — 23° 28′.

June	21	. .	18 58 4.24	
	28	. .	4.24	7.5

B. A. C. 6525.

July	4	. .	18 58 41.68	6.0
	5	. .	41.74	5.0

ζ Aquilæ.

July	25	. .	18 58 58.52	
	30	. .	58.46	
Aug.	1	. .	58.51	
	3	. .	58.44	
	15	. .	58.48	
	30	. .	58.53	
Nov.	5	. .	58.59	

B, A. C. 6531.

Aug.	31	. .	18 59 16.93	

Dorpat 2447.

July	16	. .	18 59 20.26	
	29	. .	20.27	
Aug.	12	. .	20.27	

(*) — 8° 51′.

July	2		18 59 37.26	9.5

B. A. C. 6533.

Aug.	29	. .	18 59 41.20	6.0

O. Arg. S. 19120.

June	21	. .	19 0 16.79	
	28	. .	16.73	6.5
July	8	. .	16.75	6.2

Lalande 35791.

July	2	. .	19 0 41.70	

B. A. C. 6546.

1864.			h. m. s.	Mag.
July	4	. .	19 1 1.15	7.6

O. Arg. S. 19143.

June	28	. .	19 1 6.96	8.0

π Sagittarii.

July	17	. .	19 1 26.17	

B. A. C. 6549.

Aug.	1	. .	19 1 32.52	
	15	. .	32.45	6.5

(*) — 8° 3′.

July	8	. .	19 3 39.57	7.5

(*) — 8° 10′.

July	6	. .	19 4 30.73	8.0

20 Aquilæ.

July	29	. .	19 5 4.97	
	30	. .	5.10	
Aug.	29	. .	4.95	
	30	. .	5.04	

B. A. C. 6568.

July	25	. .	19 5 42.99	
Aug.	2	. .	43.12	6.5

(*) — 8° 33′.

July	2	. .	19 6 14.55	10.0

(*) — 22° 11′.

Aug.	1	. .	19 6 29.18	

B. A. C. 6577.

Aug.	29	. .	19 7 17.77	

O. Arg. S. 19314.

July	11	. .	19 8 0.55	7.2
	15	. .	0.62	7.8
Aug.	12	. .	0.60	7.7

Weisse 224.

Aug.	1	. .	19 10 7.39	7.5

Lalande 36252.

July	29	. .	19 10 31.53	8.0

(*) — 23° 49′.

July	5	. .	19 10 49.39	7.2
	25	. .	49.20	

ω Aquilæ.

1864.		h.	m.	s.	Mag.
July	4	19	11	14.69	
	8			14.72	
	11			14 70	
	15			14.64	
	18			14.63	
	30			14.69	
Aug.	29			14.57	

Dorpat 2492.

July	16	19	11	25.01	
Aug.	1			25.14	5.7

B. A. C. 6604.

Aug.	12	19	12	10.79	

B. A. C. 6607.

July	29	19	12	14.60	

Dorpat 2497, (1st *.)

July	2	19	13	7.59	
	5			7.51	7.0

Dorpat 2497, (2d *.)

July	2	19	13	7.64	
	5			7.52	6.8

O. Arg. S. 19459.

July	11	19	14	52.18	7.8

O. Arg. S. 19465.

July	11	19	14	59.91	8.0

B. A. C. 6627.

Aug.	29	19	15	38.27	

(*) — 23° 25′.

July	4	19	16	7.52	8.5
Aug.	1			7.66	8.3

(*) — 8° 9′.

July	6	19	16	9.34	6.0

(*) — 23° 18′.

July	8	19	16	40.46	

(*) — 23° 26′.

July	6	19	17	14.11	8.5
	11			14.22	8.5

B. A. C. 6639.

Aug.	1	19	18	5.28	6.0
	29			5.44	5.7

δ Aquilæ.

1864.		h.	m.	s.	Mag.
June	28	19	18	26.22	
July	2			26.34	
	5			26.33	
	8			26.38	
	13			26.35	
	25			26.35	
	29			26.40	
Aug.	12			26.34	

Weisse 438.

July	5	19	18	33.58	7.4

O. Arg. S. 19587.

July	6	19	20	13.58	8.5

Lacaille 8120.

July	29	19	21	13.66	7.0
Aug.	1			13.57	6.2

O. Arg. S. 19660.

Aug.	12	19	23	19.11	7.0

O. Arg. S. 19674.

July	15	19	24	1.14	7.0

B. A. C. 6684.

July	29	19	24	10.84	6.5
Aug.	1			10.64	7.0

O. Arg. S. 19685.

July	6	19	24	23.23	9.0
Aug.	31			23.11	9.0

(*) — 27° 27′.

Aug.	31	19	25	7.18	

O. Arg. S. 19708.

July	6	19	25	45.52	8.5
Aug.	12			45.57	8.0
	29			45.54	8.5
	31			45.41	9.0

O. Arg. S. 19713.

July	6	19	25	53.47	9.0
Aug.	31			53.40	9.0

Lacaille 8152.

July	8	19	26	8.33	7.0

Weisse 692.

July	4	19	28	6.66	8.5

Weisse 719.

July	25	19	29	5.77	8.0
Aug.	29			5.74	8.7

Weisse 722.

Aug.	12	19	29	9.29	6.5

κ Aquilæ.

June	20	19	29	21.48	
	21			21.50	
July	2			21.45	
	15			21.39	
	16			21.47	
	18			21.46	
Aug.	1			21.44	
	31			21.43	

(*) — 24° 33′.

July	11	19	33	33.90	9.0

O. Arg. S. 19879.

July	11	19	34	9.08	7.7
	25			9.02	7.5
Aug.	1			9.14	7.5

e^2 Sagittarii.

June	20	19	34	30.48	
	21			30.48	

(*) + 8° 2′.

July	11	19	35	54.55	

Dorpat 2562, (1st *.)

July	11	19	35	57.92	9.0
Aug.	12			58.16	

Dorpat 2562, (2d *.)

July	11	19	35	59.94	8.0
Aug.	1			59.88	

(*) — 23° 11′.

July	6	19	36	10.19	6.5
Aug.	1			10.14	7.5

O. Arg. S. 19909.

July	25	19	36	16.76	6.9
Aug.	29			16.70	
	31			16.66	7.0

f Sagittarii.

June	20	19	38	11.50	
	21			11.43	

(*) + 4° 40′.

Aug.	1	19	39	19.65	9.0

γ Aquilæ.

Feb.	19	19	39	36.21	
	26			36.22	
May	24			36.25	
June	20			36.17	
July	4			36.31	
	6			36.22	
	18			(36.02)	
Dec.	6			36.21	

O. Arg. N. 19614.

1864.		h.	m.	s.	Mag.
Aug.	29	19	41	45.82	

(119 W.) + 58° 25′.

July	25	19	41	52.38	9.2

α Aquilæ.

Jan.	9	19	43	57.14	
	11			57.10	
	15			57.10	
	21			57.11	
	24			57.01	
	26			57.09	
	27			57.05	
	28			57.14	
Feb.	4			57.13	
	7			57.18:	
	8			57.07	
	10			57.14	
	12			57.03	
	19			57.08	
	26			57.11	
Mar.	2			57.13	
Dec.	6			57.13	

O. Arg. S. 20030.

Aug.	1	19	44	28.29	7.5
	31			28.11	7.5

B. A. C. 6814.

Aug.	31	19	45	54.29	6.5

57 Aquilæ, (1st*.)

July	25	19	47	2.80	5.0

57 Aquilæ, (2d *.)

July	25	19	47	3.15	5.5

B. A. C. 6829.

Aug.	31	19	47	59.95	

β Aquilæ.

May	24	19	48	26.15	
July	6			26.18	
	8			26.24	
	29			26.21	

O. Arg. S. 20086.

Aug.	29	19	48	37.73	8.5

O. Arg. S. 20095.

Aug.	29	19	48	49.73	8.3

Dorpat 2601.

Aug.	1	19	49	46.15	9.0

B. A. C. 6841.

June	21	19	50	7.52	
Aug.	31			7.50	

(*) + 6° 32′.

1864.		h. m. s.	Mag
Aug. 1	. .	19 53 8.59	8.0
29	. .	8.53	8.0

DORPAT 2612, (1st *.)

Aug. 1	. .	19 54 32.20	
29	. .	32.02	8.0

DORPAT 2612, (2d *.)

Aug. 1	. .	19 54 34.12	9.0
29	. .	34.15	9.5

DORPAT 2613, (1st *.)

July 18	. .	19 54 45.94	
25	. .	46.00	
Aug. 31	. .	45.86	8.0

DORPAT 2613, (2d *.)

July 18	. .	19 54 46.00	
25	. .	46.09	
Aug. 31	. .	45.91	8.3

WEISSE 1394.

July 25	. .	19 55 30.32	6.8
Aug. 31	. .	30.29	7.7

DORPAT 2615.

Aug. 29	. .	19 56 7.06	7.0

O. ARG. S. 20246.

July 25	. .	19 59 18.21	7.5

(*) — 18° 19′.

Aug. 1	. .	19 59 42.86	9.0

WEISSE 1512.

Aug. 29	. .	20 0 43.74	7.0

(*) — 14° 11′.

Aug. 1	. .	20 3 39.87	7.0
29	. .	39.83	7.5

WEISSE 81.

Aug. 1	. .	20 4 57.55	7.8
29	. .	57.48	7.0
31	. .	57.42	8.7

WEISSE 122.

Aug. 31	. .	20 6 19.66	8.5

O. ARG. S. 20370.

Aug. 31	. .	20 9 44.45	9.0

a^2 CAPRICORNI.

1864.		h. m. s.	Mag.
May 24	. .	20 10 16.94	
June 21	. .	16.96	
July 18	. .	16.97	
19	. .	16.99	
25	. .	17.08	
Aug. 12	. .	17.04	
24	. .	16.99	
29	. .	17.00	
Nov. 5	. .	17.02	

O. ARG. S. 20393.

Aug. 31	. .	20 11 20.81	9.0

B. A. C 6992.

June 21	. .	20 12 54.35	

β CAPRICORNI.

June 21	. .	20 13 8.59	

LACAILLE 8418.

Aug. 24	. .	20 13 59.31	6.5

O. ARG. S. 20443.

July 11	. .	20 14 23.23	8.0

LALANDE 38208.

July 18	. .	20 16 7.09	7.0

(*) — 22° 15′.

July 11	. .	20 17 22.28	8.8

B. A. C. 7040.

Aug. 24	. .	20 20 25.92	6.5

ρ CAPRICORNI.

May 24	. .	20 21 52.30	
July 11	. .	52.27	
18	. .	52.36	
19	. .	52.27	
Aug. 15	. .	52.22	
Nov. 5	. .	52.19	

(*) — 21° 44′.

Aug. 24	. .	20 25 25.90	9.2

ε DELPHINI.

July 11	. .	20 26 31.47	
Aug. 15	. .	31.48	
Sept. 1	. .	31.43	

WEISSE 743.

Aug. 31	. .	20 29 38.07	

B. A. C. 7113.

Aug. 1	. .	20 29 47.47	7.0
24	. .	47.40	6.5
Nov. 5	. .	47.60	7.0

LACAILLE 8517.

1864.		h. m. s.	Mag.
Aug. 31	. .	20 31 32.28	6.0

B. A. C. 7147.

Nov. 5	. .	20 33 2.52	6.5

B. A. C. 7148.

Aug. 24	. .	20 33 5.00	7.0

O. ARG. S. 20765.

Aug. 31	. .	20 35 16.39	9.0

WEISSE 905.

Aug. 1	. .	20 35 41.99	
Sept. 1	. .	41.87	

α CYGNI.

Feb. 4	. .	20 36 39.54	
Mar. 6	. .	39.51	
8	. .	39.62	
11	. .	39.62	
April 28	. .	39.59	

LACAILLE 8546.

Aug. 24	. .	20 36 48.72	6.7
29	. .	48.72	6.0

B. A. C. 7180.

Aug. 30	. .	20 38 3.24	
Nov. 5	. .	3.13	7.7

O. ARG. S. 20827.

Aug. 31	. .	20 38 14.53	7.8

LACAILLE 8574.

Aug. 29	. .	20 40 43.91	7.0

WEISSE 1057.

Aug. 1	. .	20 41 22.57	6.7
Sept. 1	. .	22.62	

LACAILLE 8585.

Aug. 31	. .	20 42 0.81	

μ AQUARII.

June 21	. .	20 45 5.99	
Aug. 1	. .	6.03	
24	. .	5.99	
30	. .	5.95	
31	. .	5.89	
Sept. 1	. .	6.04	
Nov. 6	. .	5.95	

B. A. C. 7244.

Aug. 29	. .	20 45 47.47	7.0
Nov. 5	. .	47.45	7.5

32 VULPECULÆ.

1864.		h. m. s.	Mag.
Aug. 29	. .	20 48 35.49	

20 CAPRICORNI.

Nov. 6	. .	20 51 38.46	7.0

LACAILLE 8642.

Aug. 31	. .	20 52 47.99	6.7

O. ARG. S. 21046.

Aug. 29	. .	20 54 0.30	9.0

LACAILLE 8658.

Aug. 30	. .	20 54 31.24	

O. ARG. S. 21053.

Aug. 29	. .	20 54 47.41	
Nov. 5	. .	47.53	
6	. .	47.42	7.2

LACAILLE 8681.

Aug. 31	. .	20 57 41.62	6.3

LACAILLE 8691.

Aug. 30	. .	20 59 4.03	

LACAILLE 8693.

Aug. 31	. .	20 59 50.92	

O. ARG. S. 21148.

Nov. 5	. .	21 0 43.32	9.0

B. A. C. 7340.

Aug. 29	. .	21 1 3.91	6.7

O. ARG. S. 21162.

Aug. 24	. .	21 1 54.79	7.6
30	. .	54.82	

ν AQUARII.

Nov. 6	. .	21 1 57.84	

LACAILLE 8722.

Aug. 31	. .	21 4 3.34	

B. A. C. 7359.

Aug. 24	. .	21 5 8.80	6.7

ζ CYGNI.

Mar. 23	. .	21 6 58.80	
April 28	. .	58.67	
Aug. 27	. .	(58.84)	
30	. .	58.71	
Nov. 5	. .	58.77	
6	. .	58.72	
Dec. 30	. .	58.78	

LACAILLE 8742.

1864.	h. m. s.	Mag.
Aug. 31 . .	21 7 3.08	6.0

O. ARG. S. 21283.

Nov. 5 . .	21 10 34.60	8.5
6 . .	34.60	8.5

ι CAPRICORNI.

June 22 . .	21 14 26.76	

(*) — 23° 18′.

Aug. 24 . .	21 14 44.80	8.5
Nov. 5 . .	44.69	9.0

LACAILLE 8791.

Aug. 31 . .	21 14 48.85	6.8

B. A. C. 7413.

July 20 . .	21 14 58.49	
Aug. 24 . .	58.57	
Nov. 5 . .	58.61	

1 PEGASI.

June 22 . .	21 15 36.62	

O. ARG. S. 21355.

Nov. 6 . .	21 16 11.37	8.0

LALANDE 41550.

Nov. 5 . .	21 16 19.77	7.5

(*) — 23° 53′.

Nov. 5 . .	21 17 14.72	9.0

B. A. C. 7432.

Aug. 31 . .	21 17 37.11	5.0

O. ARG. S. 21374.

July 20 . .	21 17 44.37	6.5
Nov. 6 . .	44.73	7.3

B. A. C. 7436.

Aug. 24 . .	21 17 44.71	6.0

LACAILLE 8823.

Aug. 31 . .	21 20 47.41	6.7

β AQUARII.

April 28 . .	21 24 11.17	
June 22 . .	11.21	
July 20 . .	11.23	
Sept. 1 . .	11.14	
Nov. 6 . .	11.20	

LACAILLE 8846.

1864.	h. m. s.	Mag.
Aug. 31 . .	21 26 4.13	6.0

β Cephi.

Jan. 11 . .	21 26 50.21	
14 . .	50.25	
16 . .	50.36	
22 . .	50.35	
23 . .	50.43	
29 . .	50.34	
Feb. 5 . .	50.39	
Mar. 2 . .	50.43	
6 . .	50.33	
8 . .	50.23	
11 . .	50.30	
15 . .	50.29	
23 . .	50.36	
April 7 S. P.	50.14	
28 . .	50.47	

B. A. C. 7492.

Sept. 1 . .	21 27 15.04	

(*) — 36° 30′.

Aug. 31 . .	21 28 18.01	9.0

LACAILLE 8854.

Aug. 31 . .	21 28 24.56	

ζ AQUARII.

June 22 . .	21 30 17.81	
July 20 . .	17.80	
24 . .	17.76	
Nov. 6 . .	17.74	

(*) — 40° 12′.

Nov. 5 . .	21 30 20.30	7.0

LACAILLE 8870.

Sept. 1 . .	21 30 58.14	

LACAILLE 8873.

Aug. 31 . .	21 32 1.09	5.8

LACAILLE 8887.

Aug. 31 . .	21 33 53.00	7.0

LACAILLE 8891.

Sept. 1 . .	21 33 56.71	

O. ARG. S. 21588.

July 20 . .	21 35 21.30	

B. A. C. 7550.

Nov. 5 . .	21 35 23.22	6.0

LACAILLE 8896.

Aug. 31 . .	21 35 51.75	5.8

LACAILLE 8900.

1864.	h. m. s.	Mag.
Aug. 31 . .	21 36 20.96	7.2

ε PEGASI.

Jan. 2 . .	21 37 18.57	
11 . .	18.61	
16 . .	18.59	
20 . .	18.52	
27 . .	18.60	
Mar. 2 . .	18.57	
6 . .	18.59	
8 . .	18.60	
11 . .	18.52	
13 . .	18.56	
23 . .	18.56	
26 . .	18.61	
April 28 . .	18.53	
Aug. 9 . .	18.62	
Dec. 30 . .	18.62	

LACAILLE 8907.

Sept. 1 . .	21 37 20.99	

LACAILLE 8915.

Aug. 31 . .	21 39 1.52	5.7

θ PISCIS AUSTRALIS.

Nov. 5 . .	21 39 30.52	5.0

11 CEPHEI.

July 20 . .	21 39 51.38	

LACAILLE 8941.

Sept. 1 . .	21 43 26.40	

O. ARG. S. 21710.

July 20 . .	21 45 15.59	8.3

μ CAPRICORNI.

June 23 . .	21 45 39.56	
Aug. 31 . .	39.60	
Sept. 1 . .	39.52	

79 DRACONIS.

June 23 . .	21 51 7.59	

B. A. C. 7665.

Oct. 25 . .	21 54 29.12	7.5

a AQUARII.

June 23 . .	21 58 35.49	
July 20 . .	35.49	
Aug. 17 . .	35.51	
Oct. 25 . .	35.46	

B. A. C. 7702.

June 20 . .	22 0 13.61	5.0

36 AQUARII.

1864.	h. m. s.	Mag.
Oct. 25 . .	22 2 2.44	7.0

LACAILLE 9047.

July 20 . .	22 3 40.71	7.0

(*) — 26° 24′.

Oct. 25 . .	22 7 15.47	7.8

θ AQUARII.

June 23 . .	22 9 26.62	
July 20 . .	26.64	
Aug. 17 . .	26.59	

ρ AQUARII.

June 23 . .	22 12 49.70	

γ AQUARII.

July 20 . .	22 14 25.44	

WEISSE 331.

Oct. 25 . .	22 16 40.51	8.5

WEISSE 346.

Oct. 25 . .	22 17 4.58	8.0

π AQUARII.

July 20 . .	22 18 (7.35)	
Aug. 17 . .	7.57	

35 PEGASI.

Oct. 25 . .	22 20 46.23	6.0

ζ AQUARII, (1st *.)

June 23 . .	22 21 37.26	

ζ AQUARII, (2d *.)

June 23 . .	22 21 37.41	

LACAILLE 9159.

Oct. 25 . .	22 23 5.19	7.3

O. ARG. S. 22237.

Oct. 25 . .	22 27 5.20	8.3

η AQUARII.

June 23 . .	22 28 9.69	
Dec. 24 . .	9.68	

κ AQUARII.

June 23 . .	22 30 30.23	

O. ARG. S. 22291.

1864.			h. m. s.	Mag.
Oct.	25	. .	22 30 36.52	8.2

ε PISCIS AUSTRALIS.

Oct.	25	. .	22 32 54.11	5.0

ζ PEGASI.

Aug.	17	. .	22 34 28.90	

O. ARG. S. 22373.

Oct.	25	. .	22 36 46.76	9.0

g^2 AQUARII.

Oct.	29	. .	22 40 1.45	6.0

LACAILLE 9269.

Oct.	25	. .	22 41 40.89	

λ AQUARII.

July	21	. .	22 45 18.54	
Oct.	25	. .	18.45	
	29	. .	18.49	

δ AQUARII.

June	24	. .	22 47 12.99	
July	21	. .	13.04	

LALANDE 44823.

Oct.	29	. .	22 47 59.25	6.5

α PISCIS AUSTRALIS.

Jan.	16	. .	22 49 54.58:	
	20	. .	54.51	
	27	. .	54.37	
	28	. .	54.43	
Feb.	4	. .	54.43	
June	24	. .	54.39	

(*) — 7° 50′.

Oct.	29	. .	22 53 18.57	9.0

81 AQUARII.

Oct.	29	. .	22 54 6.84	6.0

α PEGASI.

1864.			h. m. s.	Mag.
Jan.	9	. .	22 57 47.38	
	20	. .	47.35	
	22	. .	47.32	
	23	. .	47.44	
	25	. .	47.46	
	26	. .	47.38	
	27	. .	47.40	
	28	. .	47.44	
Feb.	4	. .	47.34	
	10	. .	47.38	
	13	. .	47.29	
	16	. .	47.34	
	23	. .	47.27	
June	24	. .	47.39	
Dec.	24	. .	47.36	

LALANDE 45137.

Oct.	25	. .	22 57 48.02	6.5
	29	. .	48.00	6.7

(*) — 20° 27′.

Oct.	29	. .	23 6 42.15	7.2

φ AQUARII.

June	24	. .	23 7 4.23	

LALANDE 45473.

Oct.	25	. .	23 7 7.62	8.5

γ PISCIUM.

June	24	. .	23 9 54.49	
	25	. .	54.45	
July	21	. .	54.51	
Oct.	29	. .	54.46	

LACAILLE 9440.

Oct.	25	. .	23 11 44.97	6.0

O. ARG. S. 22766.

Oct.	29	. .	23 13 2.98	

O. ARG. S. 22800.

Oct.	29	. .	23 15 47.80	7.7

O. ARG. S. 22817.

Oct.	25	. .	23 17 3.65	9.0

RADCLIFFE 6067.

1864.			h. m. s.	Mag.
Dec.	24	. .	23 18 29.63	8.0

κ PISCIUM.

June	25	. .	23 19 45.29	
July	21	. .	45.36	
	22	. .	45.40	

RADCLIFFE 6081.

Dec.	24	. .	23 20 39.64	8.0

B. A. C. 8184.

Oct.	25	. .	23 22 17.75	6.0

LACAILLE 9508.

Oct.	29	. .	23 24 32.84	6.5

O. ARG. S. 22897.

Dec.	24	. .	23 25 45.85	

O. ARG. S. 22911.

Oct.	25	. .	23 27 17.68	8.0
	29	. .	17.59	8.0

B. A. C. 8213.

April	26	. .	23 27 49.38 S. P.	
Mar.	8	. .	48.27 S. P.	

WEISSE 613.

Oct.	25	. .	23 30 5.17	9.0

ι PISCIUM.

June	24	. .	23 32 45.05	
	25	. .	45.06	
July	22	. .	44.94	
Oct.	25	. .	45.00	
Dec.	6	. .	44.98	

O. ARG. S. 22993.

Oct.	29	. .	23 34 28.76	

δ SCULPTORIS.

Nov.	5	. .	23 41 37.56	

21 PISCIUM.

Dec.	24	. .	23 42 17.31	6.0

B. A. C. 8287.

1864.			h. m. s.	Mag.
Dec.	6	. .	23 43 19.47	7.5

LALANDE 46769.

Dec.	6	. .	23 45 26.25	7.0

B. A. C. 8304.

Nov.	5	. .	23 46 6.14	6.8

O. ARG. S. 23120.

Dec.	24	. .	23 47 25.52	9.0

O. ARG. S. 23126.

Dec.	24	. .	23 48 34.57	9.4

LACAILLE 9663.

Dec.	6	. .	23 50 23.93	6.5

(*) — 20° 47′.

Nov.	5	. .	23 51 30.71	9.0

ω PISCIUM.

July	22	. .	23 52 7.50	
Nov.	10	. .	7.35	
Dec.	6	. .	7.38	
	24	. .	7.47	

O. ARG. S. 23166.

Nov.	5	. .	23 52 11.92	7.5

O. ARG. S. 23206.

Nov.	5	. .	23 55 45.97	7.2
Dec.	6	. .	45.93	6.5

LACAILLE 9722.

Nov.	12	. .	23 59 5.05	7.0

LACAILLE 9724.

Oct.	29	. .	23 59 39.87	6.3
Nov.	5	. .	40.02	6.8
	10	. .	39.92	7.0

WEISSE 1222.

Dec.	6	. .	23 59 53.86	7.8

MEAN DECLINATIONS FOR 1860.0

OF

STARS OBSERVED

WITH THE

MURAL CIRCLE,

1864.

MEAN DECLINATIONS FOR 1860.0,

MURAL CIRCLE.

α ANDROMEDÆ, 0h. 1m. 9s.

			°	′	″
November	5	. .	+28	19	1.8
	25	. .			3.1

α ANDROMEDÆ, (Ref.)

November	5	. .	+28	19	4.3
	25	. .			1.9

WEISSE XXIII, 1267, 0h. 1m. 40s.

November	10	. .	— 0	5	12.0
	12	. .			11.4
	29	. .			12.8

β CASSIOPEÆ, S. P., 0h. 1m. 42s.

May	17	. .	+58	22	38.3

γ PEGASI, 0h. 6m. 2s.

November	1	. .	+14	24	19.4
December	6	. .			19.4

γ PEGASI, (Ref.)

November	1	. .	+14	24	20.8
	24	. .			17.6

ANONYMOUS, 0h. 9m. 37s.

November	12	. .	— 0	0	20.5
	29	. .			21.3

ANONYMOUS, 0h. 10m. 50s.

October	29	. .	— 0	9	40.7
November	5	. .			41.4
December	6	. .			40.6

ι CETI, 0h. 12m. 18s.

October	28	. .	— 9	35	58.8
	31	. .			60.6

LACAILLE 48, 0h. 13m. 45s.

November	14	. .	—24	24	24.5
	25	. .			27.0

WEISSE O, 247, 0h. 14m. 48s.

December	24	. .	+ 6	14	7.7

WEISSE O, 302, 0h. 18m. 30s.

			°	′	″
December	29	. .	+ 6	55	2.7

LACAILLE 126, 0h. 26m. 44s.

November	12	. .	—39	27	24.8

ANONYMOUS, 0h. 29m. 25s.

November	10	. .	—39	3	49.9
December	24	. .			51.1

ANONYMOUS, 0h. 31m. 27s.

November	12	. .	—32	48	12.4
	29	. .			16.5

55 PISCIUM, 0h. 32m. 33s.

October	28	. .	+20	40	13.4
November	4	. .			11.4

α CASSIOPEÆ, 0h. 32m. 35s.

November	16	. .	+55	46	8.9
	25	. .			8.8

α CASSIOPEÆ, (Ref.)

November	16	. .	+55	46	8.0
	25	. .			8.6

WEISSE O, 583, 0h. 34m. 9s.

December	22	. .	+ 2	49	50.6
	24	. .			50.2

O. ARG. S. 369, 0h. 35m. 39s.

October	29	. .	—20	57	41.8

λ^1 SCULPTORIS, 0h. 35m. 58s.

October	25	. .	—39	13	52.6
November	1	. .			52.5

λ^2 SCULPTORIS, 0h. 37m. 24s.

October	25	. .	—39	11	35.8
November	1	. .			36.4

δ PISCIUM, 0h. 41m. 23s.

			°	′	″
October	28	. .	+ 6	49	23.1
November	4	. .			20.5
	10	. .			22.6

δ PISCIUM, (Ref.)

November	10	. .	+ 6	49	20.8

O. ARG. S. 433, 0h. 41m. 49s.

October	25	. .	—29	15	30.2

O. ARG. S. 442, 0h. 42m. 24s.

October	29	. .	—23	58	51.1

WEISSE O, 770, 0h. 44m. 25s.

December	24	. .	+ 3	15	37.2

WEISSE O, 775, 0h. 44m. 43s.

December	22	. .	+ 3	17	55.4
	24	. .			54.6

20 CETI, 0h. 45m. 50s.

October	28	. .	— 1	54	16.8
November	4	. .			18.9
	29	. .			18.0

ANONYMOUS, 0h. 49m. 15s.

December	20	. .	—27	6	24.1

O. ARG. S. 544, 0h. 51m. 46s.

October	29	. .	—20	23	21.1

WEISSE O, 928, 0h. 53m. 37s.

December	22	. .	+ 4	4	45.1

26 CETI, 0h. 56m. 36s.

October	28	. .	+ 0	36	57.7
	29	. .			56.5
November	23	. .			57.8

ANONYMOUS, 0h. 56m. 43s.

November	12	. .	—32	49	52.7

O. ARG. S. 613, 0h. 58m. 42s.

November	29	. .	—29	4	18.2

β ANDROMEDÆ, 1h. 1m. 54s.

			°	′	″
November	23	. .	+34	52	37.9

35 CETI, 1h. 5m. 16s.

October	29	. .	+ 1	43	52.3

ζ PISCIUM, (1st *,) 1h. 6m. 22s.

December	12	. .	+ 6	50	4.0

ζ PISCIUM, (2d *,) 1h. 6m. 22s.

December	12	. .	+ 6	50	15.7

POLARIS, 1h. 8m. 2s.

March	3	. .	+88	33	47.1
	24	. .			48.1
April	11	. .			47.3
May	4	. .			46.6
October	28	. .			48.0
November	4	. .			46.8
	12	. .			47.3
	16	. .			47.2
	23	. .			47.3
	25	. .			47.7
	29	. .			47.6
	30	. .			47.8
December	12	. .			47.1
	14	. .			48.1
	22	. .			48.5

POLARIS, (Ref.)

October	25	. .	+88	33	47.1
	29	. .			47.7
November	16	. .			48.5
	29	. .			48.2
December	20	. .			48.6

POLARIS, S. P.

March	24	. .	+88	33	48.4
April	21	. .			47.1
	22	. .			46.1
	23	. .			48.1
	28	. .			45.9
	29	. .			46.4
May	5	. .			46.6
	7	. .			48.3
June	10	. .			(48.2)
	15	. .			(47.3)
	20	. .			(49.9)
September	1	. .			46.1
October	7	. .			47.1
	17	. .			47.8
	20	. .			47.3

POLARIS, S. P., (Ref.)

		°	′	″
April	22	+88	33	46.7
May	30			(43.8)
June	3			(42.8)
	20			(43.5)

O. ARG. S. 752, 1h. 11m. 54s.

December	22	−29	28	14.5

δ CASSIOPEÆ, 1h. 16m. 41s.

November	14	+59	30	22.4

WEISSE I, 269, 1h. 17m. 10s.

December	29	+ 5	45	14.7

O. ARG. S. 818, 1h. 17m. 47s.

November	5	−29	13	52.2
	10			49.8

A CASSIOPEÆ, 1h. 20m. 52s.

December	22	+69	32	32.7

A CASSIOPEÆ, S. P.

April	29	+69	32	28.7
May	17			30.0

μ PISCIUM, 1h. 22m. 50s.

November	10	+ 5	25	17.3
	12			16.7
	14			17.7

η PISCIUM, 1h. 24m. 0s.

October	28	+14	37	23.4
November	4			22.8

η PISCIUM, (Ref.)

October	29	+14	37	22.1

LACAILLE 451, 1h. 27m. 33s.

November	5	−29	30	8.6
	10			9.3
	12			9.1

ANONYMOUS, 1h. 28m. 31s.

November	30	−24	10	2.1
December	22			1.7

103 PISCIUM, 1h. 31m. 42s.

November	23	+15	54	51.4

B. A. C. 504, 1h. 32m. 15s.

October	28	−25	44	6.0
November	4			7.2

ν PISCIUM, 1h. 34m. 6.

		°	′	″
October	25	+ 4	46	41.5
November	14			(44.5)
December	29			41.0

ν PISCIUM, (Ref.)

October	25	+ 4	46	40.9

LACAILLE 492, 1h. 34m. 53s.

November	5	−34	6	30.1
	12			26.3
	29			28.7

ο PISCIUM, 1h. 38m. 0s.

January	20	+ 8	27	6.9

LALANDE 3237, 1h. 38m. 42s.

October	28	− 2	37	43.5
November	4			46.1

LACAILLE 513, 1h. 39m. 32s.

November	14	−28	2	56.9
	23			56.9

B. A. C. 563, 1h. 43m. 45s.

December	6	−39	6	34.3
	22			32.5

WEISSE I, 772, 1h. 43m. 46s.

December	29	+ 7	51	19.1

ε CASSIOPEÆ, 1h. 44m. 21s.

November	5	+62	58	42.6
	29			44.0
	30			43.6

ε CASSIOPEÆ, (Ref.)

November	5	+62	58	43.4
	29			41.6
	30			42.6

ε CASSIOPEÆ, S. P.

May	19	+62	58	39.1

ξ PISCIUM, 1h. 46m. 18s.

November	12	+ 2	29	42.6
December	22			42.5

O. ARG. S. 1146, 1h. 46m. 20s.

January	20	−26	31	5.5

ι ARIETIS, 1h. 49m. 42s.

October	28	+17	7	58.0
November	4			57.2

WEISSE I, 880, 1h. 50m. 4s.

December	22	+ 9	11	59.3

O. ARG. S. 1181, 1h. 50m. 5s.

		°	′	″
November	12	−18	41	25.4

50 CASSIOPEÆ, 1h. 51m. 50s.

October	25	+71	44	27.7
December	29			27.5

50 CASSIOPEÆ, (Ref.)

October	25	+71	44	28.2
December	6			29.6
	20			28.1

50 CASSIOPEÆ, S. P.

May	16	+71	44	27.8
June	13			28.7
	15			26.9
	17			29.1

O. ARG. S. 1210, 1h. 52m. 21s.

November	12	−18	44	31.2

O. ARG. S. 1245, 1h. 55m. 1s.

January	20	−26	18	37.3

LACAILLE 607, 1h. 56m. 3s.

October	28	−22	38	28.6
November	4			30.8

O. ARG. S. 1259, 1h. 56m. 22s.

December	23	−24	33	39.5

O. ARG. S. 1261, 1h. 56m. 29s.

October	28	−22	35	12.4

α ARIETIS, 1h. 59m. 17s.

November	5	+22	47	54.9
	23			55.8
	29			55.5
	30			55.8
December	23			55.5

α ARIETIS, (Ref.)

November	5	+22	47	55.2
	29			54.5
	30			55.5

LALANDE 3979, 2h. 2m. 5s.

January	16	−18	26	37.2

η ARIETIS, 2h. 4m. 58s.

October	28	+20	33	6.6
November	4			6.0

WEISSE II, 61, 2h. 5m. 20s.

December	22	+11	12	3.9
	24			4.5

19 ARIETIS, 2h. 5m. 25s.

		°	′	″
November	23	+14	37	22.5

O. ARG. S. 1421, 2h. 8m. 46s.

November	12	−16	37	47.4
	29			47.7

O. ARG. S. 1522, 2h. 16m. 20s.

January	16	−18	59	20.6

ξ ARIETIS, 2h. 17m. 18s.

October	28	+ 9	58	31.1
November	4			30.3

ι CASSIOPEÆ, 2h. 17m. 35s.

November	29	+66	46	12.9
December	24			13.5

ι CASSIOPEÆ, (Ref.)

November	29	+66	46	11.9

ι CASSIOPEÆ, S. P.

May	30	+66	46	12.4
June	13			11.8
	20			13.5

O. ARG. S. 1535, 2h. 17m. 48s.

December	3	−18	47	53.8
	20			52.8

O. ARG. S. 1551, 2h. 19m. 34s.

January	20	−15	58	20.4

ξ^2 CETI, 2h. 20m. 42s.

November	12	+ 7	49	51.0

ξ^2 CETI, (Ref.)

November	12	+ 7	49	50.0

B. A. C. 765, 2h. 22m. 4s.

December	6	−34	26	21.4
	20			23.5
	29			24.7:

ANONYMOUS, 2h. 24m. 26s.

October	25	−21	42	44.7

σ CETI, 2h. 25m. 26s.

January	11	−15	51	39.2
December	3			39.1
	22			38.4

ANONYMOUS, 2h. 26m. 10s.

January	20	−33	13	34.7

LACAILLE 803, 2h. 31m. 23s.

				°	′	″
November	12	.	.	−23	36	7.4
	30	.	.			8.0
December	3	.	.			8.0

δ CETI, 2h. 32m. 20s.

December	29	.	.	−	0	16 38.2

WEISSE II, 805, 2h. 33m. 34s.

December	22	.	.	+21	38	34.0
	24	.	.			33.0

O. ARG. S. 1738, 2h. 34m. 5s.

January	20	.	.	−24	44	18.3

γ CETI, 2h. 36m. 3s.

November	4	.	.	+ 2	38	37.6
December	6	.	.			38.5

WEISSE II, 615, 2h. 36m. 7s.

January	16	.	.	+12	41	35.6

η PERSEI, 2h. 40m. 30s.

November	12	.	.	+55	18	40.2

η PERSEI, (Ref.)

November	12	.	.	+55	18	41.6

WEISSE II, 702, 2h. 41m. 8s.

January	16	.	.	+12	27	1.7

WEISSE II, 724, 2h. 42m. 30s.

January	22	.	.	+13	7	41.2

ANONYMOUS, 2h. 42s. 43s.

December	6	.	.	−34	21	58.1
	20	.	.			57.5
	22	.	.			57.2

β FORNACIS, 2h. 43m. 2s.

January	20	.	.	−32	59	44.4

γ FORNACIS, 2h. 43m. 40s.

December	29	.	.	−25	8	16.5

WEISSE II, 746, 2h. 43m. 50s.

January	25	.	.	+12	54	48.1

ANONYMOUS, 2h. 47m. 29s.

November	30	.	.	−23	43	6.3
December	3	.	.			6.4
	14	.	.			5.7

O. ARG. S. 1887, 2h. 47m. 59s.

December	22	.	.	−23	31	19.5

WEISSE II, 841, 2h. 48m. 32s.

				°	′	″
January	16	.	.	+13	20	50.0

O. ARG. S. 1910, 2h. 49m. 40s.

November	30	.	.	−23	47	16.5

O. ARG. S. 1930, 2h. 51m. 27s.

January	11	.	.	−16	24	27.1
December	23	.	.			26.4

LACAILLE 951, 2h. 53m. 21s.

December	22	.	.	−34	44	54.9
	29	.	.			56.1

α CETI, 2h. 54m. 58s.

January	2	.	.	+ 3	32	17.7
	8	.	.			18.2
November	12	.	.			17.0
	23	.	.			19.8
December	3	.	.			18.1
	6	.	.			18.1
	20	.	.			18.5

O. ARG. S. 1977, 2h. 55m. 35s.

January	25	.	.	−18	45	37.3

WEISSE II, 976, 2h. 55m. 47s.

January	20	.	.	+13	55	14.2

τ^3 ERIDANI, 2h. 56m. 12s.

December	14	.	.	−24	10	30.3
	23	.	.			31.3

ANONYMOUS, 2h. 58m. 37s.

November	30	.	.	−26	19	30.8
December	3	.	.			31.1

53 ARIETIS, 2h. 59m. 33s.

November	23	.	.	+17	20	16.5

WEISSE II, 1069, 3h. 0m. 26s.

January	2	.	.	+ 0	51	52.8

WEISSE III, 20, 3h. 2m. 52s.

January	9	.	.	+11	20	22.2

WEISSE III, 36, 3h. 3m. 44s.

December	29	.	.	+12	30	52.8

LACAILLE 996, 3h. 4m. 24s.

January	25	.	.	−24	16	20.7
February	4	.	.			21.1
November	30	.	.			19.9
December	3	.	.			19.5

B. A. C. 1012, 3h. 8m. 58s.

				°	′	″
December	3	.	.	−26	37	15.6
	22	.	.			14.6

ANONYMOUS, 3h. 9m. 55s.

January	27	.	.	+14	34	51.3

WEISSE III, 173, 3h. 10m. 44s.

January	27	.	.	+14	40	24.5

O. ARG. S. 2173, 3h. 11m. 3s.

December	14	.	.	−18	54	20.0

LACAILLE 1041, 3h. 11m. 9s.

November	30	.	.	−24	2	9.5
December	24	.	.			9.8

O. ARG. S. 2189, 3h. 12m. 17s.

February	3	.	.	−19	4	11.2
December	14	.	.			11.4

τ^4 ERIDANI, 3h. 13m. 19s.

December	14	.	.	−22	16	8.5
	22	.	.			7.7

B. A. C. 1039, 3h. 13m. 28s.

December	3	.	.	−24	37	54.9
	29	.	.			55.7

α PERSEI, 3h. 14m. 21s.

January	8	.	.	+49	21	35.0

ANONYMOUS, 3h. 14m. 22s.

December	29	.	.	−24	37	17.9

B. A. C. 1049, 3h. 15m. 17s.

December	20	.	.	−24	8	21.7

B. A. C. 1054, 3h. 16m. 8s.

January	11	.	.	−26	5	27.4

ANONYMOUS, 3h. 18m. 0s.

December	23	.	.	−18	58	15.0
	24	.	.			14.4

LACAILLE 1113, 3h. 23m. 28s.

November	30	.	.	−23	57	38.6
December	3	.	.			38.1

LACAILLE 1121, 3h. 24m. 45s.

January	11	.	.	−28	24	25.2

LACAILLE 1124, 3h. 25m. 48s.

				°	′	″
January	22	.	.	−26	5	28.0
February	3	.	.			26.9
December	14	.	.			27.4
	29	.	.			28.4

O. ARG. S. 2343, 3h. 26m. 29s.

December	14	.	.	−26	8	2.3
	29	.	.			2.6

ANONYMOUS, 3h. 29m. 49s.

January	9	.	.	−19	0	47.4
	11	.	.			49.0

O. ARG. S. 2388, 3h. 29m. 55s.

December	3	.	.	−23	58	58.1

B. A. C. 1119, 3h. 31m. 27s.

January	22	.	.	+16	4	44.8
	25	.	.			42.8

ANONYMOUS, 3h. 31m. 47s.

December	14	.	.	−22	33	29.2

δ PERSEI, 3h. 33m. 0s.

January	8	.	.	+47	20	11.3
	29	.	.			10.9

δ PERSEI, (Ref.)

January	29	.	.	+47	20	10.3:

RUMKER 945, 3h. 35m. 26s.

February	8	.	.	+23	55	41.5

O. ARG. S. 2468, 3h. 36m. 2s.

December	3	.	.	−23	41	46.2
	22	.	.			45.0

RUMKER 952, 3h. 36m. 5s.

January	28	.	.	+23	41	17.2
February	4	.	.			19.0

16 TAURI, 3h. 36m. 29s.

February	3	.	.	+23	50	46.1
	8	.	.			46.5

17 TAURI, 3h. 36m. 34s.

January	5	.	.	+23	40	14.5
	9	.	.			13.2
	16	.	.			13.8
	26	.	.			13.3
	28	.	.			11.8
February	4	.	.			13.2
	9	.	.			13.4
	11	.	.			12.9
	12	.	.			13.4

1 Pleiadum, 3h. 37m. 8s.

		° ′ ″	
January	26	+23 35	38.2
	28		37.2
February	4		37.5
	9		37.0
	11		37.1

4 Pleiadum, 3h. 37m. 18s.

February	3	+23 53	40.5

20 Tauri, 3h. 37m. 30s.

February	3	+23 55	38.8
	8		37.2

7 Pleiadum, 3h. 37m. 33s.

January	16	+23 35	55.0
	26		54.2
	28		54.0
February	9		(57.5)
	11		54.2

O. Arg. S. 2488, 3h. 37m. 47s.

December	14	−22 22	54.2

8 Pleiadum, 3h. 37m. 53s.

February	12	+23 45	23.6

8 Pleiadum, (Ref.)

December	24	+23 45	19.2

23 Tauri, 3h. 38m. 2s.

January	5	+23 30	33.6
	9		32.2
	16		32.4
	26		33.1
	28		30.6
February	4		32.3
	9		32.5
	11		31.9

13 Pleiadum, 3h. 38m. 48s.

February	4	+23 33	25.8

O. Arg. S. 2504, 3h. 38m. 49s.

December	23	−23 49	15.4

24 Tauri, 3h. 39m. 2s.

January	12	+23 40	50.4
	16		47.8
February	9		50.7
	11		48.9
	12		48.8

η Tauri, 3h. 39m. 10s.

January	5	+23 40	10.9
	9		10.5
	12		10.4
	16		9.9
	26		10.7
	28		8.7
February	4		9.6
	9		10.9
	11		9.8
	12		10.5
November	30		10.6

η Tauri, (Ref.)

		° ′ ″	
December	20	+23 40	7.4
	24		8.2
	29		9.5

B. A. C. 1165, 3h. 39m. 10s.

February	3	+23 51	9.0
	8		9.7

Weisse N. III, 878, 3h. 39m. 39s.

January	25	+16 16	8.6

Weisse N. III, 887, 3h. 40m. 0s.

January	29	+16 31	39.5

B. A. C. 1171, 3h. 40m. 10s.

February	3	+23 54	44.8
	8		45.5

τ^6 Eridani, 3h. 40m. 48s.

December	3	−23 39	57.4
	14		57.3
	23		57.4

27 Tauri, 3h. 40m. 54s.

January	5	+23 37	20.1
	9		20.4
	12		20.9
	16		19.7
	26		19.9
	28		19.1
February	4		20.1
	9		20.1
	11		19.6
	12		21.6

27 Tauri, (Ref.)

December	29	+23 37	20.8

28 Tauri, 3h. 40m. 55s.

January	5	+23 42	22.7
	9		22.0
	12		21.9
	16		21.0
	26		21.5
	28		20.4
February	4		21.0
	9		21.8
	11		21.5
	12		22.1

28 Tauri, (Ref.)

December	24	+23 42	19.1

33 Pleiadum, 3h. 41m. 6s.

February	3	+23 49	2.1

τ^7 Eridani, 3h. 41m. 38s.

December	22	−24 18	36.0

Lacaille 1231, 3h. 42m. 0s.

		° ′ ″	
January	11	−26 45	41.1
	29		42.7

B. A. C. 1195, 3h. 42m. 33s.

January	5	+23 32	8.0
	16		6.4
	26		5.9
	28		4.2
February	4		5.9
	9		6.6
	11		6.3

Anonymous, 3h. 43m. 58m.

December	23	−19 10	21.4

B. A. C. 1206, 3h. 45m. 10s.

January	25	+16 54	26.4

ζ Persei, 3h. 45m. 20s.

January	22	+31 27	54.0:

Weisse N. 1015, 3h. 46m. 36s.

January	25	+16 55	38.7

B. A. C. 1211, 3h. 46m. 47s.

January	8	+80 18	15.7
	27		15.8
February	5		16.0

B. A. C. 1211, (Ref.)

January	27	+80 18	14.6
February	5		14.1

B. A. C. 1211, S. P.

June	1	+80 18	14.3
	3		15.2
	16		15.5
	17		16.5

Lacaille 1271, 3h. 47m. 57s.

December	29	−23 32	29.9

Lacaille 1284, 3h. 49m. 37s.

January	11	−26 20	24.0

O. Arg. S. 2663, 3h. 49m. 47s.

February	3	−26 37	30.3
December	14		29.7

B. A. C. 1229, 3h. 49m. 55s.

February	9	−14 0	26.4

Anonymous, 3h. 50m. 46s.

December	23	−18 57	40.1

γ Eridani, 3h. 51m. 30s.

		° ′ ″	
January	5	−13 54	32.1
February	9		32.4

Anonymous, 3h. 54m. 39s.

December	14	−27 13	58.8

Anonymous, 3h. 55m. 9s.

December	23	−22 40	16.7

Lacaille 1317, 3h. 55m. 28s.

January	25	−26 54	(35.2:)
	28		42.0

A^1 Tauri, 3h. 56m. 26s.

January	8	+21 41	47.4

Lacaille 1329, 3h. 57m. 36s.

January	11	−26 14	7.3
	29		6.1:
February	3		7.6

Anonymous, 3h. 57m. 39s.

January	28	−26 52	5.2

Weisse N. III, 1262, 3h. 58m. 43s.

January	26	+17 16	58.9

Anonymous, 4h. 3m. 45s.

December	3	−19 22	15.5

Weisse N. IV, 65, 4h. 4m. 35s.

January	26	+17 28	16.2

Anonymous, 4h. 4m. 47s.

December	24	−26 58	27.4
	29		27.4

o^1 Eridani, 4h. 5m. 2s.

January	29	− 7 12	17.0

Anonymous, 4h. 7m. 5s.

December	22	−23 29	12.8

ω^2 Tauri, 4h. 9m. 4s.

February	13	+23 13	48.8

O. Arg. S. 2937, 4h. 9m. 47s.

December	22	−23 35	24.1

O. Arg. S. 2939, 4h. 9m. 50s.

December	3	−22 30	2.3

B. A. C. 1327, 4h. 11m. 34s.

				°	′	″
January	11	.	.	−39	13	51.7

γ TAURI, 4h. 11h. 50s.

January	8	.	.	+15	17	13.1

WEISSE N. IV, 248, 4h. 12m. 19s.

January	25	.	.	+18	24	14.6

ANONYMOUS, 4h. 13m. 18s.

December	24	.	.	−23	45	20.2
	29	.	.			21.0

WEISSE N. IV, 270, 4h. 13m. 28s.

January	22	.	.	+18	4	56.5

δ^1 TAURI, 4h. 14m. 52s.

January	29	.	.	+17	12	41.2
February	12	.	.			39.6

δ^1 TAURI, (Ref.)

January	29	.	.	+17	12	38.1
February	12	.	.			39.0

ANONYMOUS, 4h. 17m. 28s.

January	11	.	.	−25	42	46.4

WEISSE N. IV, 376, 4h. 17m. 43s.

January	26	.	.	+18	32	30.6

O. ARG. S. 3082, 4h. 20m. 35s.

December	22	.	.	−23	27	12.1
	24	.	.			10.7

O. ARG. S. 3108, 4h. 22m. 19s.

December	22	.	.	−23	24	53.5
	24	.	.			53.7

LACAILLE 1474, 4h. 23m. 46s.

February	4	.	.	−26	35	8.9
December	29	.	.			7.8

WEISSE IV, 554, 4h. 26m. 45s.

January	25	.	.	+ 5	16	22.1

LACAILLE 1504, 4h. 26m. 47s.

February	10	.	.	−25	30	17.2

LACAILLE 1509, 4h. 27m. 20s.

January	22	.	.	−25	51	23.8
February	8	.	.			24.3

α TAURI, 4h. 27m. 53s.

				°	′	″
January	5	.	.	+16	13	29.5
	12	.	.			27.7
	29	.	.			28.5
December	12	.	.			28.9
	24	.	.			29.1

α TAURI, (Ref.)

January	5	.	.	+16	13	29.7
	12	.	.			27.7
December	24	.	.			26.6

LACAILLE 1521, 4h. 29m. 4s.

February	10	.	.	−25	19	47.0

ANONYMOUS, 4h. 30m. 39s.

December	22	.	.	−26	50	58.6

LACAILLE 1531, 4h. 31m. 0s.

February	11	.	.	−27	20	0.8

ANONYMOUS, 4h. 32m. 2s.

December	29	.	.	−27	3	43.7

LACAILLE 1540, 4h. 33m. 8s.

February	26	.	.	−25	59	0.2

ANONYMOUS, 4h. 33m. 35s.

February	8	.	.	+ 8	0	21.0

LACAILLE 1553, 4h. 35m. 20s.

February	3	.	.	−39	4	49.6

ANONYMOUS, 4h. 36m. 29s.

December	24	.	.	−23	26	45.6

O. ARG. S. 3325, 4h. 37m. 16s.

December	3	.	.	−24	6	42.6
	22	.	.			41.8

LACAILLE 1568, 4h. 37m. 48s.

February	3	.	.	−39	7	24.5

α CAMELOPARDIS, 4h. 40m. 9s.

January	27	.	.	+66	5	57.0
February	12	.	.			57.0

α CAMELOPARDIS, (Ref.)

February	12	.	.	+66	5	54.6

α CAMELOPARDIS, S. P.

June	16	.	.	+66	5	55.5
	17	.	.			57.2
	29	.	.			57.3

B. A. C. 1482, 4h. 40m. 46s.

				°	′	″
February	9	.	.	−28	20	33.0

ANONYMOUS, 4h. 40m. 46s.

February	13	.	.	+10	45	58.5

ANONYMOUS, 4h. 40m. 53s.

December	29	.	.	+10	42	54.9

O. ARG. S. 3382, 4h. 41m. 4s.

February	10	.	.	−26	33	21.3

WEISSE IV, 926, 4h. 43m. 27s.

February	13	.	.	+10	49	31.0

LACAILLE 1611, 4h. 43m. 59s.

February	3	.	.	−35	20	2.0

ANONYMOUS, 4h. 44m. 41s.

December	22	.	.	−23	31	55.6

LACAILLE 1617, 4h. 44m. 43s.

February	3	.	.	−35	20	45.7

WEISSE IV, 986, 4h. 45m. 37s.

February	16	.	.	+ 8	19	11.2

WEISSE N. IV, 1047, 4h. 47m. 13s.

November	30	.	.	+27	36	37.8
December	24	.	.			35.7

WEISSE IV, 1028, 4h. 47m. 19s.

February	13	.	.	+ 8	22	10.2

ε AURIGÆ, 4h. 47m. 53s.

February	26	.	.	+32	56	26.8

O. ARG. S. 3488, 4h. 48m. 50s.

February	10	.	.	−26	57	29.9

O. ARG. S. 3492, 4h. 49m. 2s.

February	9	.	.	−25	52	49.7

B. A. C. 1531, 4h. 49m. 44s.

February	9	.	.	−25	57	13.8

β CAMELOPARDIS, 4h. 50m. 59s.

January	27	.	.	+60	13	56.8
	29	.	.			55.8

β CAMELOPARDIS, (Ref.)

January	27	.	.	+60	13	54.3
	29	.	.			54.2

β CAMELOPARDIS, S. P.

				°	′	″
June	25	.	.	+60	13	56.0

ANONYMOUS, 4h. 54m. 10s.

February	3	.	.	−25	16	1.5
	8	.	.			2.8

11 ORIONIS, 4h. 56m. 34s.

December	3	.	.	+15	12	22.2

11 ORIONIS, (Ref.)

December	3	.	.	+15	12	20.4

ε LEPORIS, 4h. 59m. 32s.

February	26	.	.	−24	33	39.8

ANONYMOUS, 4h. 59m. 38s.

December	24	.	.	−23	50	26.8
	29	.	.			25.9

α AURIGÆ, 5h. 6m. 21s.

January	5	.	.	+45	51	3.5
	16	.	.			3.4
	25	.	.			2.5
February	9	.	.			3.8
	11	.	.			2.9
	13	.	.			2.1

α AURIGÆ, (Ref.)

February	9	.	.	+45	51	0.1
	11	.	.			1.1
	13	.	.			2.0

LACAILLE 1754, 5h. 6m. 42s.

February	8	.	.	−37	34	0.2

WEISSE V, 136, 5h. 6m. 45s.

February	16	.	.	− 8	18	55.7

β ORIONIS, 5h. 7m. 49s.

January	29	.	.	− 8	21	56.8
February	3	.	.			58.2
May	6	.	.			58.0

β ORIONIS, (Ref.)

January	29	.	.	− 8	22	0.3

LACAILLE 1806, 5h. 15m. 14s.

February	8	.	.	−29	20	54.0

β TAURI, 5h. 17m. 27s.

January	5	.	.	+28	29	7.8
	11	.	.			5.9
	25	.	.			6.6

β TAURI, (Ref.)

January	11	.	.	+28	29	7.2

B. A C. 1688, 5h. 17m. 31s.

				°	′	″
February	9	.	.	−26	50	22.7

B. A. C. 1706, 5h. 21m. 5s.

December	22	.	.	+74	56	32.4

B. A. C. 1706, S. P.

July	2	.	.	+74	56	(37.0)
August	1	.	.			30.2
	3	.	.			31.3
	5	.	.			30.1

ε ORIONIS, 5h. 29m. 7s.

January	25	.	.	− 1	17	38.0
December	29	.	.			39.3

ANONYMOUS, 5h. 32m. 47s.

November	30	.	.	+21	14	53.3

α ORIONIS, 5h. 47m. 36s.

January	25	.	.	+ 7	22	42.5
	26	.	.			41.1
	27	.	.			40.3
February	24	.	.			41.0
May	6	.	.			40.9

α ORIONIS, (Ref.)

January	27	.	.	+ 7	22	37.8
February	24	.	.			39.0

LACAILLE 2122, 5h. 59m. 10s.

February	8	.	.	−28	3	12.1

ν ORIONIS, 5h. 59m. 35s.

January	25	.	.	+14	46	53.3

ANONYMOUS, 6h. 0m. 46s.

January	28	.	.	−23	31	41.1

π^1 COLUMBÆ, 6h. 2m. 17s.

February	17	.	.	−42	16	57.3

B. A. C. 1995, 6h. 4m. 58s.

February	26	.	.	−27	7	31.8

LACAILLE 2177, 6h. 5m. 52s.

February	26	.	.	−27	1	39.3

η GEMINORUM, 6h. 6m. 26s.

January	25	.	.	+22	32	38.3

LACAILLE 2189, 6h. 7m. 28s.

February	8	.	.	−28	25	45.6

LACAILLE 2190, 6h. 7m. 55s.

				°	′	″
January	28	.	.	−23	49	45.6
February	24	.	.			45.0

LACAILLE 2208, 6h. 11m. 23s.

February	24	.	.	−24	1	29.2
	26	.	.			27.7

μ GEMINORUM, 6h. 14m. 29s.

January	25	.	.	+22	34	55.3
February	13	.	.			54.5

LACAILLE 2226, 6h. 14m. 44s.

January	28	.	.	−23	34	30.4

DORPAT 900, 6h. 16m. 21s.

March	3	.	.	+ 4	39	39.0

11 MONOCERATIS, 6h. 22m. 1s.

March	3	.	.	− 6	56	45.3

11 MONOCERATIS, (S.*) 6h. 22m. 1s.

March	3	.	.	− 6	56	51.0

B. A. C. 2095, 6h. 22m. 20s.

February	24	.	.	+79	42	15.1
	26	.	.			14.3

B. A. C. 2095, S. P.

July	9	.	.	+79	42	14.0
	21	.	.			14.4
	23	.	.			13.6

γ GEMINORUM, 6h. 29m. 37s.

January	25	.	.	+16	30	55.2
March	9	.	.			54.5

γ GEMINORUM, (Ref.)

March	9	.	.	+16	30	53.9

O. ARG. S. 5343, 6h. 30m. 15s.

January	23	.	.	−24	0	23.1

51 (Hev.) CEPHEI, 6h. 33m. 38s.

February	12	.	.	+87	14	55.9
	24	.	.			55.2

51 (Hev.) CEPHEI, S. P.

October	7	.	.	+87	14	52.9

α CANIS MAJORIS, 6h. 38m. 59s.

				°	′	″
January	23	.	.	−16	31	42.4
	25	.	.			41.5
	26	.	.			41.2
February	8	.	.			40.6
	11	.	.			41.7
	13	.	.			42.1
	16	.	.			(44.3)
	18	.	.			40.9
	19	.	.			41.4
	24	.	.			41.5
	26	.	.			41.3
March	3	.	.			41.5
	9	.	.			41.4
	18	.	.			42.2
May	31	.	.			42.1
June	6	.	.			41.7
	16	.	.			41.0
	21	.	.			40.0
	22	.	.			41.3
	28	.	.			39.9
July	13	.	.			41.3
	15	.	.			42.3
	19	.	.			41.4
	27	.	.			41.3
	28	.	.			42.0
August	4	.	.			41.7

α CANIS MAJORIS, (Ref.)

March	2	.	.	−16	31	43.3
	7	.	.			43.6

LACAILLE 2461, 6h. 43m. 46s.

January	23	.	.	−23	59	6.8

LACAILLE 2462, 6h. 43m. 54s.

January	23	.	.	−23	55	2.2

ε CANIS MAJORIS, 6h. 53m. 7s.

January	25	.	.	−28	47	0.6
February	13	.	.			2.3

B. A. C. 2298, 6h. 53m. 32s.

February	13	.	.	−28	46	21.4

44 GEMINORUM, 6h. 56m. 54s.

December	22	.	.	+22	50	38.9

γ CANIS MAJORIS, 6h. 57m. 23s.

February	19	.	.	−15	25	44.3

B. A. C. 2326, 7h. 1m. 24s.

February	19	.	.	+82	40	5.9
March	2	.	.			5.6
	7	.	.			5.4

B. A. C. 2326, S. P.

July	23	.	.	+82	40	4.7

LACAILLE 2684, 7h. 9m. 53s.

January	23	.	.	−23	29	50.2

δ GEMINORUM, 7h. 12m. 4s.

				°	′	″
January	25	.	.	+22	14	13.3

WEISSE VII, 461, 7h. 15m. 33s.

March	12	.	.	−14	49	21.5

LACAILLE 2762, 7h. 16m. 56s.

March	23	.	.	−25	44	42.6

ANONYMOUS, 7h. 17m. 15s.

March	12	.	.	−14	56	43.7

ANONYMOUS, 7h. 19m. 0s.

March	12	.	.	−14	57	51.0

LACAILLE 2792, 7h. 19m. 35s.

January	23	.	.	−24	56	36.7

ANONYMOUS, 7h. 19m. 56s.

March	12	.	.	−14	41	54.3

ANONYMOUS, 7h. 22m. 58s.

March	12	.	.	−14	42	11.7

ANONYMOUS, 7h. 24m. 11s.

January	23	.	.	−24	51	25.6

a^1 GEMINORUM, 7h. 25m. 39s.

February	27	.	.	+32	11	26.7

a^2 GEMINORUM, 7h. 25m. 40s.

February	13	.	.	+32	11	29.6
	27	.	.			29.4

a^2 GEMINORUM, (Ref.)

February	13	.	.	+32	11	29.6

α CANIS MINORIS, 7h. 31m. 58s.

January	23	.	.	+ 5	34	46.9
February	27	.	.			46.3
March	2	.	.			47.7
	3	.	.			46.9
June	21	.	.			45.1
	28	.	.			46.1

α CANIS MINORIS, (Ref.)

March	2	.	.	+ 5	34	46.4

m PUPPIS, 7h. 32m. 24s.

March	9	.	.	−25	2	57.5

ANONYMOUS, 7h. 33m. 33s.

March	12	.	.	−23	54	39.8

ANONYMOUS, 7h. 34m. 6s.:

March	21	.	.	−34	29	37.4

LALANDE 15006, 7h. 34m. 53s.

				°	′	″
March	12	.	.	−23	57	4.2

β GEMINORUM, (Ref.) 7h. 36m. 45s.

				°	′	″
February	19	.	.	+28	21	39.2

LACAILLE 2929, 7h. 37m. 46s.

				°	′	″
January	23	.	.	−25	10	20.0

B. A. C. 2590, S. P., 7h. 42m. 35s.

				°	′	″
October	14	.	.	+79	51	7.9

B. A. C. 2606, 7h. 44m. 24s.

				°	′	″
March	2	.	.	+47	44	38.4
	3	.	.			40.0

O. ARG. N. 8445, 7h. 48m. 23s.

				°	′	″
March	3	.	.	+47	10	55.6

O. ARG. N. 8459, 7h. 49m. 31s.

				°	′	″
March	2	.	.	+46	59	44.5
	3	.	.			43.1

LACAILLE 3086, 7h. 52m. 13s.

				°	′	″
January	25	.	.	−42	1	0.6

ANONYMOUS, 7h. 52m. 58s.

				°	′	″
March	9	.	.	−37	12	13.8
	21	.	.			12.5

6 CANCRI, 7h. 54m. 55s.

				°	′	″
February	27	.	.	+28	11	1.0

O. ARG. S. 7865, 7h. 56m. 25s.

				°	′	″
March	12	.	.	−25	40	38.0

O. ARG. S. 7882, 7h. 57m. 10s.

				°	′	″
March	5	.	.	−24	12	45.8

ANONYMOUS, 7h. 57m. 49s.

				°	′	″
March	12	.	.	−25	37	52.8

LACAILLE 3127, 7h. 58m. 39s.

				°	′	″
March	9	.	.	−25	18	15.5

55 CAMELOPARDIS, 7h. 58m. 50s.

				°	′	″
February	22	.	.	+68	52	51.0

55 CAMELOPARDIS, (Ref.)

				°	′	″
February	22	.	.	+68	52	51.0

55 CAMELOPARDIS, S. P.

				°	′	″
August	31	.	.	+68	52	49.3
September	28	.	.			48.8
October	10	.	.			51.0

ρ ARGUS, 8h. 1m. 38s.

				°	′	″
February	27	.	.	−23	54	9.9
March	5	.	.			9.3

O. ARG. S. 8072, 8h. 2m. 40s.

				°	′	″
March	5	.	.	−23	58	50.1

LACAILLE 3168, 8h. 3m. 28s.

				°	′	″
March	9	.	.	−37	16	26.9

LACAILLE 3201, 8h. 6m. 55s.

				°	′	″
March	12	.	.	−41	22	17.3

O. ARG. S. 8291, 8h. 10m. 5s.

				°	′	″
March	9	.	.	−24	48	25.0

λ CANCRI, 8h. 12m. 16s.

				°	′	″
February	27	.	.	+24	27	36.3

LACAILLE 3262, 8h. 14m. 2s.

				°	′	″
March	12	.	.	−34	9	9.3

B. A. C. 2811, 8h. 16m. 53s.

				°	′	″
January	23	.	.	−25	54	5.1

o URSÆ MAJORIS, S. P., 8h. 18m. 36s.

				°	′	″
October	17	.	.	+61	10	53.5

B. A. C. 2838, 8h. 20m. 56s.

				°	′	″
March	9	.	.	−41	41	50.1

B. A. C. 2843, 8h. 21m. 34s.

				°	′	″
April	6	.	.	−31	12	45.6

ANONYMOUS, 8h. 21m. 56s.

				°	′	″
March	21	.	.	−34	33	17.9

O. ARG. S. 8654, 8h. 25m. 27s.

				°	′	″
March	21	.	.	−25	12	41.4

B. A. C. 2889, (South *) 8h. 28m. 25s.

				°	′	″
March	5	.	.	+ 7	6	22.0

B. A. C. 2889, (North *) 8h. 28m. 25s.

				°	′	″
March	5	.	.	+ 7	6	31.9

B. A. C. 2899, 8h. 29m. 44s.

				°	′	″
November	12	.	.	+19	45	8.8
	15	.	.			11.1
	24	.	.			10.2

ANONYMOUS, 8h. 32m. 17s.

				°	′	″
November	12	.	.	+19	50	29.0
	15	.	.			30.1
	24	.	.			29.4

WEISSE VIII, 986, 8h. 38m. 15s.

				°	′	″
March	5	.	.	− 2	5	39.8

ε HYDRÆ, 8h. 39m. 22s.

				°	′	″
April	7	.	.	+ 6	55	48.5

LACAILLE 3509, 8h. 40m. 9s.

				°	′	″
January	23	.	.	−26	6	12.2

LACAILLE 3511, 8h. 40m. 25s.

				°	′	″
January	23	.	.	−26	7	6.3

LACAILLE 3546, 8h. 43m. 39s.

				°	′	″
March	21	.	.	−30	24	51.1

LACAILLE 3552, 8h. 44m. 35s.

				°	′	″
April	6	.	.	−29	53	47.7

ANONYMOUS, 8h. 44m. 41s.

				°	′	″
March	21	.	.	−41	13	21.0:

17 HYDRÆ, (S. *) 8h. 48m. 38s.

				°	′	″
March	5	.	.	− 7	26	17.3

17 HYDRÆ, (N. *) 8h. 48m. 38s.

				°	′	″
March	5	.	.	− 7	26	11.7

ι URSÆ MAJORIS, 8h. 49m. 36s.

				°	′	″
January	23	.	.	+48	35	17.8
April	7	.	.			17.4

ι URSÆ MAJORIS, (Ref.)

				°	′	″
April	7	.	.	+48	35	17.6

ANONYMOUS, 8h. 50m. 44s.

				°	′	″
March	21	.	.	−29	59	24.8

O. ARG. S. 9276, 8h. 56m. 43s.

				°	′	″
March	21	.	.	−30	28	0.4

σ^2 URSÆ MAJORIS, 8h. 58m. 1s.

				°	′	″
February	22	.	.	+67	41	56.9

σ^2 URSÆ MAJORIS, S. P.

				°	′	″
August	31	.	.	+67	41	53.6
October	7	.	.			53.4:
	14	.	.			54.3

ANONYMOUS, 9h. 2m. 25s.

				°	′	″
March	5	.	.	−23	19	45.1

B. A. C. 3143, 9h. 6m. 12s.

				°	′	″
March	23	.	.	−38	41	15.6

LACAILLE 3739, 9h. 9m. 5s.

				°	′	″
March	21	.	.	−29	47	25.0

LACAILLE 3796, 9h. 15m. 22s.

				°	′	″
April	6	.	.	−30	12	45.1

ANONYMOUS, 9h. 15m. 24s.

				°	′	″
March	23	.	.	−34	40	50.1

LACAILLE 3802, 9h. 16m. 45s.

				°	′	″
April	18	.	.	−29	55	39.7

1 (Hev.) DRACONIS, 9h. 16m. 48s.

				°	′	″
February	22	.	.	+81	56	22.9
March	5	.	.			22.3
April	6	.	.			22.5
	18	.	.			22.7
	19	.	.			23.1
	29	.	.			22.6

1 (Hev.) DRACONIS, (Ref.)

				°	′	″
February	22	.	.	+81	56	21.8

α HYDRÆ, 9h. 20m. 41s.

				°	′	″
April	7	.	.	− 8	3	12.5

α HYDRÆ, (Ref.)

				°	′	″
April	7	.	.	− 8	3	13.2

d URSÆ MAJORIS, 9h. 22m. 2s.

				°	′	″
April	12	.	.	+70	26	32.1

O. ARG. S. 9789, 9h. 24m. 6s.

				°	′	″
April	18	.	.	−29	31	55.5

ANONYMOUS, 9h. 26m. 1s.

				°	′	″
March	23	.	.	−28	25	40.9

O. ARG. S. 9931, 9h. 31m. 10s.

				°	′	″
March	8	.	.	−30	20	32.9
April	13	.	.			33.2

ε Leonis, 9h. 37m. 54s.

			°	′	″
March	8	. .	+24	25	1.7
April	7	. .			2.1

ε Leonis, (Ref.)

April	7	. .	+24	25	1.7

Lacaille 3996, 9h. 38m. 32s.

March	23	. .	−38	55	49.8

Anonymous, 9h. 39m. 45s.

April	6	. .	−37	10	4.6

Lacaille 4026, 9h. 42m. 22s.

April	25	. .	−25	45	58.4

Lacaille 4030, 9h. 42m. 33s.

April	6	. .	−36	59	11.4

μ Leonis, 9h. 44m. 48s.

March	21	. .	+26	39	52.4

μ Leonis, (Ref.)

March	21	. .	+26	39	51.0

Anonymous, 9h. 50m. 8s.

March	23	. .	−38	53	19.3
April	18	. .			18.4:
	25	. .			19.4

O. Arg. S. 10236, 9h. 50m. 20s.

March	8	. .	−29	27	31.6

Anonymous, 9h. 54m. 12s.

March	23	. .	−34	38	37.9

Anonymous, 9h. 57m. 46s.

April	25	. .	−38	36	12.2

Weisse IX, 1259, 9h. 59m. 5s.

April	6	. .	+13	27	45.5

Weisse IX, 1279, 10h. 0m. 20s.

April	13	. .	+13	42	10.2

α Leonis, 10h. 0m. 55s.

March	8	. .	+12	39	1.7
	21	. .			0.8
April	7	. .			2.5

α Leonis, (Ref.)

March	21	. .	+12	38	59.9

Weisse X, 94, 10h. 6m. 29s.

			°	′	″
April	23	. .	+12	22	50.4

Weisse X, 116, 10h. 7m. 40s.

April	23	. .	+12	22	4.3

Weisse X, 115, 10h. 7m. 44s.

April	18	. .	+12	34	30.4

32 Ursæ Maj., S. P., 10h. 7m. 49s.

October	12	. .	+65	48	14.2

Anonymous, 10h. 8m. 19s.

April	6	. .	−30	7	23.6

B. A. C. 3495, 10h. 8m. 40s.

April	25	. .	+84	57	32.4

Lalande 19981, 10h. 10m. 19s.

April	23	. .	+11	58	55.9

Weisse X, 209, 10h. 12m. 59s.

April	23	. .	+12	3	16.6

O. Arg. S. 10539, 10h. 13m. 11s.

March	8	. .	−22	16	7.8

O. Arg. S. 10513, 10h. 13m. 35s.

March	8	. .	−22	24	3.1

B. A. C. 3528, 10h. 13m. 38s.

February	22	. .	+83	16	5.1

B. A. C. 3528, S. P.

October	12	. .	+83	16	2.5
	25	. .			2.6
November	1	. .			3.1

B. A. C. 3528, S. P., (Ref.)

November	10	. .	+83	16	3.2

Lacaille 4286, 10h. 18m. 54s.

March	8	. .	−28	29	2.6

45 Leonis, 10h. 20m. 14s.

April	26	. .	+10	28	30.7

B. A. C. 3593, 10h. 23m. 5s.

April	18	. .	+76	25	56.0
May	4	. .			57.2

Lacaille 4340, 10h. 27m. 15s.

April	26	. .	−26	37	39.8

Anonymous, 10h. 28m. 14s.

			°	′	″
April	25	. .	−37	24	23.5

B. A. C. 3627, 10h. 28m. 17s.

April	11	. .	−22	27	17.4

B. A. C. 3638, 10h. 30m. 38s.

April	26	. .	−26	41	17.0

Lacaille 4389, 10h. 33m. 26s.

April	29	. .	−32	53	3.0

Lacaille 4406, 10h. 35m. 13s.

May	4	. .	−25	18	55.2

O. Arg. S. 10840, 10h. 37m. 4s.

April	11	. .	−30	8	1.1

37 Sextantis, 10h. 38m. 48s.

April	26	. .	+ 7	6	38.6

Weisse X, 703, 10h. 40m. 1s.

April	26	. .	+ 7	5	14.7

O. Arg. S. 10912, 10h. 42m. 47s.

April	11	. .	−29	48	43.1

Anonymous, 10h. 43m. 1s.

April	18	. .	−29	15	15.5

O. Arg. S. 10936, 10h. 45m. 36s.

April	19	. .	−29	20	10.6

O. Arg. S. 10941, 10h. 45m. 54s.

April	19	. .	−29	26	21.4

O. Arg. S. 10952, 10h. 46m. 40s.

April	19	. .	−29	21	5.6

O. Arg. S. 10974, 10h. 48m. 12s.

April	11	. .	−29	35	27.7

Lacaille 4516, 10h. 48m. 44s.

April	26	. .	−26	13	56.9

Anonymous, 10h. 52m. 18s.

April	18	. .	−22	30	15.2

β Ursæ Majoris, 10h. 53m. 22s.

October	10	. .	+57	7	54.9

α Ursæ Majoris, 10h. 55m. 3s.

			°	′	″
March	8	. .	+62	30	21.7
April	7	. .			21.8
	19	. .			22.0
October	13	. .			21.4
	16	. .			22.3
	17	. .			21.4

α Ursæ Majoris, (Ref.)

March	8	. .	+62	30	20.9
April	7	. .			22.1

α Ursæ Majoris, S. P.

October	18	. .	+62	30	20.0
	25	. .			20.0
November	19	. .			21.3

Anonymous, 10h. 55m. 8s.

April	11	. .	−33	9	26.4

χ Leonis, 10h. 57m. 47s.

April	26	. .	+ 8	5	33.2

B. A. C. 3792, 10h. 58m. 17s.

April	29	. .	−35	3	3.1

Lacaille 4596, 11h. 0m. 8s.

April	25	. .	−29	47	47.8

Anonymous, 11h. 0m. 29s.

April	21	. .	−28	55	55.7

Lacaille 4614, 11h. 1m. 54s.

April	21	. .	−28	59	21.2

Lacaille 4624, 11h. 3m. 12s.

April	21	. .	−28	50	28.9

B. A. C. 3823, 11h. 3m. 13s.

April	21	. .	−29	2	7.0

Lacaille 4630, 11h. 3m. 41s.

April	29	. .	−25	14	4.7

Lacaille 4638, 11h. 5m. 6s.

April	29	. .	−25	22	26.3

δ Leonis, 11h. 6m. 40s.

April	6	. .	+21	17	25.0
	19	. .			25.3
	26	. .			25.8

Lacaille 4655, 11h. 7m. 45s.

April	29	. .	−25	18	44.3

ANONYMOUS, 11h. 8m. 55s.

				°	′	″
April	28	.	.	−37	29	43.4

LACAILLE 4672, 11h. 9m. 13s.

				°	′	″
April	19	.	.	−38	34	2.8

LACAILLE 4680, 11h. 10m. 13s.

				°	′	″
April	28	.	.	−37	38	11.1

LACAILLE 4687, 11h. 10m. 52s.

				°	′	″
April	19	.	.	−32	46	14.3

δ CRATERIS, 11h. 12m. 21s.

				°	′	″
April	26	.	.	−14	1	14.7

O. ARG. S. 11311, 11h. 13m. 5s.

				°	′	″
March	7	.	.	−29	40	51.7

LACAILLE 4710, 11h. 13m. 57s.

				°	′	″
April	29	.	.	−34	58	41.4

ANONYMOUS, 11h. 15m. 37s.

				°	′	″
March	23	.	.	−38	20	15.1

LACAILLE 4725, 11h. 16m. 13s.

				°	′	″
May	4	.	.	−28	7	44.7

O. ARG. S. 11353, 11h. 16m. 24s.

				°	′	″
March	21	.	.	−22	56	21.5

83 LEONIS, 11h. 19m. 40s.

				°	′	″
April	26	.	.	+ 3	46	35.2

τ LEONIS, 11h. 20m. 44s.

				°	′	″
April	26	.	.	+ 3	37	38.1

LACAILLE 4761, 11h. 23m. 25s.

				°	′	″
April	28	.	.	−25	1	36.6
May	4	.	.			37.3

LACAILLE 4766, 11h. 23m. 56s.

				°	′	″
April	19	.	.	−38	27	59.0

O. ARG. S. 11444, 11h. 24m. 3s.

				°	′	″
May	4	.	.	−25	7	39.3

B. A. C. 3921, 11h. 25m. 19s.

				°	′	″
April	25	.	.	−28	29	45.8

B. A. C. 3922, 11h. 25m. 19s.

				°	′	″
April	25	.	.	−28	29	37.5

ν LEONIS, 11h. 29m. 46s.

				°	′	″
April	26	.	.	− 0	3	1.6

LACAILLE 4837, 11h. 33m. 5s.

				°	′	″
April	19	.	.	−37	19	54.6

ANONYMOUS, 11h. 33m. 17s.

				°	′	″
April	28	.	.	−27	43	12.5

B. A. C. 3975, 11h. 36m. 46s.

				°	′	″
April	26	.	.	− 5	53	54.3

LACAILLE 4882, 11h. 39m. 18s.

				°	′	″
April	25	.	.	−33	58	29.2

LACAILLE 4890, 11h. 40m. 17s.

				°	′	″
April	29	.	.	−29	30	0.9

β LEONIS, 11h. 41m. 55s.

				°	′	″
March	12	.	.	+15	21	17.5
	24	.	.			17.5

β LEONIS, (Ref.)

				°	′	″
March	24	.	.	+15	21	16.4

ANONYMOUS, 11h. 44m. 9s.

				°	′	″
March	23	.	.	−36	9	26.0

B. A. C. 4009, 11h. 44m. 35s.

				°	′	″
April	25	.	.	−30	2	42.7

ANONYMOUS, 11h. 45m. 14s.

				°	′	″
April	28	.	.	−36	58	22.4

γ URSÆ MAJORIS, 11h. 46m. 27s.

				°	′	″
March	7	.	.	+54	28	23.5
April	7	.	.			24.7

γ URSÆ MAJORIS, (Ref.)

				°	′	″
March	7	.	.	+54	28	23.4
April	7	.	.			24.4

B. A. C. 3974, 11h. 46m. 30s.

				°	′	″
May	4	.	.	−36	24	46.4

LACAILLE 4930, 11h. 47m. 10s.

				°	′	″
April	29	.	.	−35	12	46.0

B. A. C. 4023, 11h. 47m. 26s.

				°	′	″
April	28	.	.	−36	58	18.3

B. A. C. 4025, 11h. 47m. 42s.

				°	′	″
May	4	.	.	+ 0	42	53.0

ANONYMOUS, 11h. 48m. 7s.:

				°	′	″
March	2	.	.	− 7	52	48.9

LACAILLE 4948, 11h. 50m. 23s.

				°	′	″
April	6	.	.	−26	16	26.6

LACAILLE 4955, 11h. 51m. 0s.

				°	′	″
April	29	.	.	−26	54	14.7

LACAILLE 4967, 11h. 52m. 13s.

				°	′	″
April	25	.	.	−29	16	52.2

O. ARG. S. 11831, 11h. 53m. 52s.

				°	′	″
May	4	.	.	−25	42	1.3

LACAILLE 4976, 11h. 54m. 16s.

				°	′	″
March	23	.	.	−33	16	13.5
April	23	.	.			13.9

ANONYMOUS, 11h. 58m. 1s.

				°	′	″
March	23	.	.	−33	25	44.4

o VIRGINIS, 11h. 58m. 5s.

				°	′	″
March	7	.	.	+ 9	30	40.8

o VIRGINIS, (Ref.)

				°	′	″
March	7	.	.	+ 9	30	41.1

LACAILLE 5016, 11h. 58m. 52s.

				°	′	″
April	19	.	.	−37	53	43.8

10 VIRGINIS, 12h. 2m. 30s.

				°	′	″
May	4	.	.	+ 2	41	3.4

LACAILLE 5042, 12h. 2m. 33s.

				°	′	″
April	23	.	.	−32	42	28.6

ANONYMOUS, 12h. 3m. 41s.:

				°	′	″
April	6	.	.	−39	47	20.1

4 (Hev.) DRACONIS, 12h. 5m. 36s.

				°	′	″
February	24	.	.	+78	23	39.7
April	21	.	.			40.5
	29	.	.			39.3
May	23	.	.			39.4

4 (Hev.) DRACONIS, (Ref.)

				°	′	″
April	29	.	.	+78	23	39.2
May	23	.	.			37.3

ANONYMOUS, 12h. 6m. 0s.

				°	′	″
April	19	.	.	−33	20	46.5

δ URSÆ MAJORIS, 12h. 8m. 29s.

				°	′	″
March	7	.	.	+57	48	39.6

δ URSÆ MAJORIS, (Ref.)

				°	′	″
March	7	.	.	+57	48	39.7

ANONYMOUS, 12h. 8m. 45s.

				°	′	″
March	23	.	.	−25	47	5.1

ANONYMOUS, 12h. 9m. 37s.

				°	′	″
March	23	.	.	25	49	6.0

LACAILLE 5088, 12h. 10m. 28s.

				°	′	″
April	23	.	.	−35	18	56.7

13 VIRGINIS, 12h. 11m. 30s.

				°	′	″
March	24	.	.	− 0	0	30.1
May	4	.	.			30.2

η VIRGINIS, 12h. 12m. 45s.

				°	′	″
March	24	.	.	+ 0	6	43.1

ANONYMOUS, 12h. 13m. 36s.

				°	′	″
March	23	.	.	−25	51	32.4

ANONYMOUS, 12h. 14m. 3s.

				°	′	″
April	19	.	.	−28	56	45.1

LACAILLE 5126, 12h. 15m. 54s.

				°	′	″
April	21	.	.	−36	42	48.1

LACAILLE 5131, 12h. 16m. 31s.

				°	′	″
April	19	.	.	−29	33	29.4

LALANDE 23198, 12h. 16m. 44s.

				°	′	″
April	23	.	.	−25	14	14.3
May	16	.	.			15.1

LACAILLE 5143, 12h. 17m. 56s.

				°	′	″
April	23	.	.	−25	12	43.1
May	16	.	.			44.4

ANONYMOUS, 12h. 22m. 35s.

				°	′	″
March	23	.	.	−37	33	53.3

20 COMÆ, 12h. 22m. 40s.

				°	′	″
April	29	.	.	+21	40	19.0

20 COMÆ, (Ref.)

				°	′	″
April	29	.	.	+21	40	17.6

LACAILLE 5198, 12h. 25m. 28s.

				°	′	″
April	21	.	.	−29	16	16.6

β Corvi, 12h. 27m. 2s.

			°	′	″
March	24	. .	−32	37	19.8

Lacaille 5214, 12h. 28m. 30s.

March	23	. .	−39	5	46.4

Anonymous, 12h. 28m. 40s.

April	19	. .	−32	58	25.8
	23	. .			28.2

f Virginis, 12h. 29m. 35s.

May	7	. .	− 5	3	34.5

Lacaille 5257, 12h. 36m. 5s.

May	20	. .	−25	32	0.4

Anonymous, 12h. 36m. 42s.

March	23	. .	−36	28	4.5

O. Arg. S. 12390, 12h. 37m. 51s.

May	30	. .	−29	0	55.8

Anonymous, 12h. 38m. 2s.

May	5	. .	−37	3	16.1

Lalande 23832, 12h. 40m. 3s.

May	7	. .	+14	22	55.7

Lacaille 5295, 12h. 42m. 55s.

April	29	. .	−29	48	51.2

Weisse XII, 757, 12h. 44m. 41s.

May	5	. .	+ 0	50	55.9

Weisse XII, 876, 12h. 45m. 27s.

ay	5	. .	+ 0	52	22.2

Anonymous, 12h. 46m. 30s.:

April	29	. .	−38	34	47.6

B. A. C. 4342, 12h. 48m. 8s.

June	13	. .	+84	10	27.0
	15	. .			26.6

α Canum Ven. (1st *) 12h. 49m. 26s.

April	21	. .	+39	4	17.8

α Canum Ven. (2d *) 12h. 49m. 28s.

April	21	. .	+39	4	31.7
	23	. .			32.1

Anonymous, 12h. 49m. 51s.

			°	′	″
May	30	. .	−32	23	49.7

Lacaille 5348, 12h. 51m. 18s.

May	20	. .	−29	16	35.0

O. Arg. S. 12615, 12h. 56m. 17s.

May	16	. .	−25	2	58.0

Lacaille 5405, 13h. 0m. 0s.

May	30	. .	−29	41	6.2

Anonymous, 13h. 3m. 55s.

April	29	. .	−36	39	5.5

Lacaille 5457, 13h. 7m. 16s.

May	16	. .	−35	37	43.0

O. Arg. S. 12811, 13h. 13m. 27s.

May	5	. .	−21	38	48.2

Lacaille 5510, 13h. 14m. 47s.

May	5	. .	−25	6	24.7

Lalande 24816, 13h. 16m. 33s.

May	16	. .	−24	23	52.6

α Virginis, 13h. 17m. 49s.

April	28	. .	−10	25	43.8
	29	. .			45.5
May	20	. .			44.9
	23	. .			42.5:
	30	. .			46.4:
June	10	. .			44.2:
September	1	. .			45.8

α Virginis, (Ref.)

May	20	. .	−10	25	46.0

ζ Ursæ Majoris, 13h. 18m. 17s.

June	15	. .	+55	39	26.5

Anonymous, 13h. 21m. 25s.

May	5	. .	−34	50	32.1

Lalande 24977, 13h. 23m. 23s.

May	16	. .	−24	55	56.9

O. Arg. S. 12920, 13h. 23m. 57s.

June	10	. .	−30	19	55.5

h Virginis, 13h. 25m. 35s.

			°	′	″
April	22	. .	− 9	26	31.2
June	3	. .			31.3

ζ Virginis, 13h. 27m. 33s.

May	30	. .	+ 0	7	16.1

ζ Virginis, (Ref.)

May	30	. .	+ 0	7	16.2

Weisse XIII, 461, 13h. 27m. 56s.

April	29	. .	+ 7	10	17.3

Weisse XIII, 472, 13h. 28m. 13s.

April	29	. .	+ 7	13	39.8

B. A. C. 4536, 13h. 28m. 32s.

May	7	. .	+37	54	1.5

Anonymous, 13h. 29m. 30s.

April	28	. .	−35	51	21.2

Anonymous, 13h. 30m. 58s.

May	31	. .	−26	32	47.9

Lacaille 5625, 13h. 31m. 36s.

May	5	. .	−39	20	14.3

Lacaille 5655, 13h. 35m. 7s.:

April	22	. .	−29	28	28.0

o Virginis, 13h. 36m. 1s.

May	7	. .	+ 4	14	50.5

Anonymous, 13h. 36m. 10s.

April	28	. .	−35	51	8.4

Lacaille 5663, 13h. 37m. 0s.

April	29	. .	−24	47	40.3

Lacaille 5676, 13h. 38m. 48s.

May	5	. .	−35	32	57.2

Anonymous, 13h. 40m. 53s.

June	10	. .	−30	0	40.5

Lacaille 5686, 13h. 41m. 8s.

April	28	. .	−27	39	57.2

Anonymous, 13h. 41m. 32s.

June	3	. .	−35	54	28.3

η Ursæ Majoris, 13h. 42m. 1s.

			°	′	″
April	21	. .	+50	0	48.2
May	30	. .			45.4

η Ursæ Majoris, (Ref.)

April	21	. .	+50	0	47.7
May	30	. .			47.6

Lacaille 5692, 13h. 42m. 1s.

June	15	. .	−27	29	13.2

O. Arg. S. 13177, 13h. 42m. 52s.

April	28	. .	−27	36	38.1

O. Arg. S. 13182, 13h. 43m. 7s.

April	28	. .	−27	33	46.4

Lacaille 5710, 13h. 43m. 40s.

April	29	. .	−23	41	1.8
May	5	. .			1.4

Lacaille 5754, 13h. 47m. 54s.

June	3	. .	−29	53	22.4

η Bootis, 13h 48m. 1s.

May	5	. .	+19	6	4.1

Lalande 25635, 13h. 49m. 41s.

April	22	. .	−22	20	12.3

Anonymous, 13h. 49m. 54s.

June	3	. .	−30	16	41.8
	10	. .			35.5

Lacaille 5773, 13h. 50m. 5s.

May	20	. .	−25	18	46.8

Lacaille 5774, 13h. 50m. 10s.

May	30	. .	−29	3	27.5

Anonymous, 13h. 54m. 6s.

April	22	. .	−35	30	1.9

Anonymous, 14h. 0m. 12s.

June	13	. .	−32	23	5.5

α Draconis, 14h. 0m. 36s.

May	20	. .	+65	2	45.3
	30	. .			44.0

α Draconis, (Ref.)

May	20	. .	+65	2	47.1
June	3	. .			47.3

α Draconis, S. P.

				°	′	″
January	20	.	.	+65	2	44.1
	22	.	.			41.4
November	12	.	.			45.3
December	6	.	.			45.1
	20	.	.			43.6
	22	.	.			46.5

Lacaille 5838, 14h. 2m. 17s.

May	16	.	.	−29	25	25.1

d Bootis, 14h. 3m. 58s.

May	19	.	.	+25	45	24.6

Lacaille 5855, 14h. 4m. 30s.

June	10	.	.	−23	41	8.7

κ Virginis, 14h. 5m. 26s.

May	7	.	.	− 9	37	13.9

α Bootis, 14h. 9m. 17s.

April	22	.	.	+19	54	38.8
May	20	.	.			38.6
	21	.	.			(32.2)
October	7	.	.			38.6

α Bootis, (Ref.)

April	22	.	.	+19	54	37.7
May	20	.	.			38.8
	31	.	.			37.4

4 Ursæ Minoris, 14h. 9m. 26s.

May	16	.	.	+78	12	19.8
	30	.	.			17.6
June	3	.	.			17.0
	6	.	.			15.4
	10	.	.			19.2
	13	.	.			18.3

4 Ursæ Minoris, (Ref.)

May	30	.	.	+78	12	22.2
June	15	.	.			20.2

4 Ursæ Minoris, S. P.

January	20	.	.	+78	12	16.7

ι Bootis, 14h. 11m. 5s.

June	7	.	.	+52	0	50.3

λ Virginis, 14h. 11m. 32s.

May	7	.	.	−12	43	31.7

Lacaille 5910, 14h. 13m. 58s.

June	17	.	.	−27	39	53.7

Anonymous, 14h. 14m. 28s.

May	27	.	.	−35	20	17.5

O. Arg. S. 13629, 14h. 19m. 22s.

				°	′	″
May	20	.	.	−27	16	19.3:
June	17	.	.			15.9

O. Arg. S. 13647, 14h. 20m. 27s.

May	20	.	.	−27	17	22.2
June	17	.	.			19.6

Lacaille 5956, 14h. 21m. 29s.

June	10	.	.	−25	23	7.3

Lacaille 5977, 14h. 23m. 59s.

June	20	.	.	−27	4	58.2

O. Arg. S. 13711, 14h. 24m. 52s.

May	16	.	.	−30	5	35.3

ρ Bootis, 14h. 25m. 48s.

May	7	.	.	+30	59	14.2

5 Ursæ Minoris, 14h. 27m. 52s.

May	17	.	.	+76	19	5.2
	30	.	.			4.1
June	3	.	.			5.8
	10	.	.			6.6
	15	.	.			5.9

5 Ursæ Minoris, (Ref.)

May	20	.	.	+76	19	6.5
	30	.	.			9.5
June	3	.	.			8.6
	15	.	.			6.8

5 Ursæ Minoris, S. P.

January	22	.	.	+76	19	4.9
	25	.	.			4.7
December	6	.	.			5.8
	20	.	.			5.3
	24	.	.			4.1

O. Arg. S. 13757, 14h. 29m. 0s.

June	20	.	.	−25	11	7.1

Lacaille 6035, 14h. 31m. 51s.

May	31	.	.	−26	31	30.6
June	13	.	.			29.5

Lacaille 6042, 14h. 32m. 16s.

May	16	.	.	−25	39	1.1

B. A. C. 4842, 14h. 33m. 8s.

May	27	.	.	−37	11	23.9

Lacaille 6060, 14h. 34m. 15s.

June	10	.	.	−27	11	8.9

Anonymous, 14h. 37m. 1s.:

				°	′	″
June	17	.	.	−25	13	60.2
	20	.	.			59.7

108 Virginis, 14h. 38m. 22s.

May	7	.	.	+ 1	18	36.0

56 Hydræ, 14h. 39m. 36s.

June	3	.	.	−25	59	52.7
	20	.	.			53.0

B. A. C. 4888, 14h. 41m. 7s.

May	27	.	.	−23	39	56.0

Lacaille 6109, 14h. 41m. 25s.:

May	16	.	.	−31	50	25.4

Anonymous, 14h. 41m. 26s.

June	10	.	.	−36	48	36.3

α Libræ, 14h. 43m. 10s.

May	4	.	.	−15	27	26.4
	20	.	.			26.3
June	3	.	.			27.2
	17	.	.			25.2

α Libræ, (Ref.)

May	31	.	.	−15	27	27.6

Lacaille 6137, 14h. 46m. 10s.

June	16	.	.	−32	43	34.5

O. Arg. S. 14046, 14h. 47m. 0s.

May	30	.	.	−28	57	39.5

Lacaille 6162, 14h. 48m. 52s.

May	16	.	.	−28	35	21.6

β Ursæ Minoris, 14h. 51m. 9s.

May	17	.	.	+74	43	38.0
	20	.	.			39.6
June	15	.	.			41.8
	20	.	.			37.6
October	14	.	.			40.4

β Ursæ Minoris, (Ref.)

May	20	.	.	+74	43	40.9
June	15	.	.			39.5
	20	.	.			43.1

β Ursæ Minoris, S. P.

January	22	.	.	+74	43	38.1
	29	.	.			38.2
February	3	.	.			39.0

β Ursæ Minoris, S. P., (Ref.)

				°	′	″
December	24	.	.	+74	43	38.7

B. A. C. 4937, 14h. 51m. 44s.

May	7	.	.	+50	12	6.3

Weisse N. 1154, 14h. 52m. 57s.

June	21	.	.	+43	58	31.3

Lacaille 6198, 14h. 54m. 27s.

May	4	.	.	−32	5	15.9

20 Libræ, 14h. 55m. 54s.

May	30	.	.	−24	43	44.9
June	13	.	.			43.3

O. Arg. S. 14257, 14h. 58m. 48s.

May	16	.	.	−28	57	33.9

B. A. C. 4982, 14h. 59m. 56s.

May	27	.	.	+83	4	60.9
June	10	.	.			61.2
	17	.	.			59.4
	20	.	.			58.7

B. A. C. 4982, S. P.

December	6	.	.	+83	4	59.8
	22	.	.			61.4
	24	.	.			59.1

O. Arg. S. 14278, 15h. 0m. 17s.

May	16	.	.	−28	49	27.0
June	3	.	.			27.7

O. Arg. S. 14279, 15h. 0m. 19s.

June	13	.	.	−21	33	20.4

O. Arg. S. 14289, 15h. 0m. 41s.

May	30	.	.	−25	57	27.5

Weisse XIV, 1149, 15h. 1m. 20s.

July	5	.	.	−11	15	3.9

2 Lupi, 15h. 9m. 17s.

May	16	.	.	−29	37	50.3
	27	.	.			(60.9)
	30	.	.			52.2

O. Arg. S. 14421, 15h. 9m. 26s.

May	4	.	.	−29	57	34.9

O. Arg. S. 14435, 15h. 10m. 16s.

June	13	.	.	−30	18	32.3

B. A. C. 5039, 15h. 10m. 58s.

			°	′	″
June	15	. .	—23	45	1.0

B. A. C. 5041, 15h. 11m. 29s.

June	15	. .	—23	45	21.8

5 SERPENTIS, 15h. 12m. 10s.

June	21	. .	+ 2	17	50.0

O. ARG. S. 14487, 15h. 13m. 56s.

May	4	. .	—29	52	24.4

O. ARG. S. 14511, 15h. 15m. 20s.

June	25	. .	—26	27	29.3

11 URSÆ MIN., S. P., 15h. 17m. 15s.

December	6	. .	+72	19	53.6

γ^2 URSÆ MINORIS, 15h. 20m. 59s.

June	13	. .	+72	19	55.9
	17	. .			54.8
	20	. .			53.7

γ^2 URSÆ MINORIS, (Ref.)

June	20	. .	+72	19	57.8

γ^2 URSÆ MINORIS, S. P.

January	8	. .	+72	19	54.1
	25	. .			53.8
December	6	. .			54.4
	22	. .			56.7

ι DRACONIS, 15h. 21m. 39s.

June	22	. .	+59	27	22.7

ι DRACONIS, S. P.

February	3	. .	+59	27	26.1

O. ARG. S. 14624, 15h. 24m. 2s.

June	21	. .	—21	29	8.3

B. A. C. 5110, 15h. 24m. 47s.

July	6	. .	—25	19	19.0

WEISSE 444, 15h. 24m. 44s.

June	3	. .	— 9	6	25.2
July	5	. .			24.6

O. ARG. S. 14674, 15h. 27m. 20s.

June	25	. .	—24	40	42.4

ANONYMOUS, 15h. 27m. 45s.

July	6	. .	—23	43	46.9

α COR. BOREALIS, 15h. 28m. 46s.

			°	′	″
June	15	. .	+27	11	15.0

α CORONÆ BOREALIS, (Ref.)

June	15	. .	+27	11	19.4

B. A. C. 5145, 15h. 29m. 8s.

June	16	. .	—25	48	47.4
	17	. .			46.7

B. A. C. 5149, 15h. 29m. 48s.

June	20	. .	—27	44	31.3

40 LIBRÆ, 15h. 30m. 4s.

June	21	. .	—29	18	47.7

ANONYMOUS, 15h. 31m. 0s.

May	16	. .	—38	14	58.5

ANONYMOUS, 15h. 33m. 16s.

June	3	. .	—39	31	27.9

κ LIBRÆ, 15h. 33m. 53s.

June	1	. .	—19	13	16.1
	13	. .			18.0

η LIBRÆ, 15h. 36m. 12s.

June	21	. .	—25	13	22.1

α SERPENTIS, (Ref.,) 15h. 37m. 22s.

June	25	. .	+ 6	52	7.2

O. ARG. S. 14839, 15h. 37m. 30s.

June	3	. .	—22	18	35.6
	17	. .			33.8

ANONYMOUS, 15h. 39m. 3s.

June	13	. .	—19	10	14.6

ANONYMOUS, 15h. 39m. 23s.

June	20	. .	—20	47	43.7

B. A. C. 5211, 15h. 39m. 43s.

June	13	. .	—25	32	59.4

B. A. C. 5220, 15h. 40m. 11s.

May	4	. .	—23	23	51.9
	20	. .			53.0

B. A. C. 5228, 15h. 42m. 11s.

June	17	. .	—25	51	31.9

B. A. C. 5240, 15h. 43m. 35s.

			°	′	″
June	21	. .	—29	27	28.4

ε SERPENTIS, 15h. 43m. 50s.

June	15	. .	+ 4	54	7.3

ε SERPENTIS, (Ref.)

June	15	. .	+ 4	54	4.7

ANONYMOUS, 15h. 44m. 40s.

July	16	. .	—25	31	14.0

ANONYMOUS, 15h. 45m. 9s.

June	22	. .	—21	32	57.6
July	13	. .			55.8

LACAILLE 6582, 15h. 46m. 57s.

June	20	. .	—39	26	54.7

B. A. C. 5265, 15h. 47m. 5s.

June	7	. .	—25	51	0.7

ζ URSÆ MINORIS, S. P., 15h. 49m. 8s.

December	3	. .	+78	13	23.7
	24	. .			23.2

π SCORPII, 15h. 50m. 26s.

June	13	. .	—25	42	22.4

δ SCORPII, 15h. 52m. 4s.

May	30	. .	—22	13	10.9
June	15	. .			9.9

O. ARG. S. 15112, 15h. 52m. 47s.

July	13	. .	—23	52	1.6

B. A. C. 5308, 15h. 54m. 0s.

June	21	. .	—28	44	24.0

O. ARG. S. 15194, 15h. 57m. 15s.

June	20	. .	—23	50	8.0
July	6	. .			9.0

β SCORPII, 15h. 57m. 18s.

June	10	. .	—19	25	11.1

β SCORPII, (Ref.)

June	10	. .	—19	25	14.3
	25	. .			11.7

B. A. C. 5335, 15h. 57m. 47s.

June	17	. .	—23	13	15.2

B. A. C. 5345, 15h. 59m. 28s.

June	3	. .	—24	4	58.2

O. ARG. S. 15271 16h. 0m. 19s.

			°	′	″
July	6	. .	—29	52	58.2

B. A. C. 5354, 16h. 0m. 26s.

June	13	. .	—23	18	27.8

B. A. C. 5364, 16h. 1m. 45s.

June	15	. .	—26	32	6.3
	20	. .			8.1

ϵ^2 SCORPII, 16h. 3m. 43s.

June	1	. .	—27	33	32.0

ν SCORPII, 16h. 3m. 53s.

June	3	. .	—19	5	37.5

O. ARG. S. 15388, 16h. 5m. 8s.

July	5	. .	—29	50	55.8

B. A. C. 5394, 16h. 5m. 22s.

July	13	. .	—24	3	35.6

B. A. C. 5395, 16h. 5m. 29s.

June	7	. .	—21	2	20.0
	15	. .			18.3

O. ARG. S. 15403, 16h. 5m. 40s.

July	6	. .	—23	24	47.6
	8	. .			47.4

B. A. C. 5406, S. P., 16h. 5m. 57s.

January	22	. .	+68	10	45.1
	27	. .			42.7:

δ OPHIUCHI, 16h. 7m. 1s.

July	14	. .	— 3	19	50.7

δ OPHIUCHI, (Ref.)

June	16	. .	— 3	19	46.8

B. A. C. 5421, 16h. 8m. 12s.

June	13	. .	—29	23	26.8

LACAILLE 6765, 16h. 8m. 23s.

June	1	. .	—34	28	12.8

O. ARG. S. 15466, 16h. 8m. 46s.

June	15	. .	—20	57	4.6

LACAILLE 6774, 16h. 9m. 12s.

June	1	. .	—34	33	35.6

ANONYMOUS, 16h. 10m. 10s.

June	20	. .	—30	9	7.4

ANONYMOUS, 16h. 10m. 19s.

				°	′	″
June	3	.	.	−30	4	44.5
	20	.	.			44.5

ANONYMOUS, 16h. 11m. 11s.

				°	′	″
June	1	.	.	−34	33	35.6

19 SCORPII, 16h. 12m. 16s.

				°	′	″
June	13	.	.	−23	49	41.0

σ SCORPII, 16h. 12m. 43s.

				°	′	″
June	21	.	.	−25	15	8.6

LACAILLE 6806, 16h. 14m. 0s.:

				°	′	″
June	1	.	.	−34	35	20.3

O. ARG. S. 15566, 16h. 14m. 32s.

				°	′	″
July	2	.	.	−22	47	2.7
	8	.	.			1.6

ψ OPHIUCHI, 16h. 15m. 57s.

				°	′	″
June	17	.	.	−19	42	20.8

B. A. C. 5464, (South *) 16h. 15m. 53s.

				°	′	″
July	13	.	.	−29	22	22.2

B. A. C. 5464, (North *) 16h. 15m. 53s.

				°	′	″
July	13	.	.	−29	22	14.2

O. ARG. S. 15612, 16h. 17m. 0s.

				°	′	″
June	13	.	.	−24	8	19.2

B. A. C. 5476, 16h. 17m. 4s.

				°	′	″
July	5	.	.	−29	35	45.5

ρ OPHIUCHI, (South *) 16h. 17m. 13s.

				°	′	″
June	15	.	.	−23	7	13.3
July	6	.	.			15.6

ρ OPHIUCHI, (North *) 16h. 17m. 14s.

				°	′	″
June	15	.	.	−23	7	9.7
July	6	.	.			11.0

B. A. C. 5487, 16h. 18m. 48s.

				°	′	″
June	22	.	.	−28	58	4.3

ANONYMOUS, 16h. 20m. 34.

				°	′	″
July	9	.	.	−24	12	56.7

α SCORPII, 16h. 20m. 50s.

				°	′	″
June	20	.	.	−26	7	3.7
	21	.	.			0.8
July	4	.	.			3.7
	6	.	.			3.1
	8	.	.			2.3

α SCORPII, (Ref.)

				°	′	″
June	20	.	.	−26	7	4.1

η URSÆ MINORIS, 16h. 21m. 39s.

				°	′	″
June	1	.	.	+76	4	35.5
	17	.	.			34.9
	25	.	.			33.8
July	11	.	.			36.3

η URSÆ MINORIS, S. P., 16h. 21m. 39s.

				°	′	″
January	22	.	.	+76	4	35.0
	27	.	.			32.8
December	3	.	.			34.0

η DRACONIS, 16h. 22m. 7s.

				°	′	″
July	14	.	.	+61	49	55.6

η DRACONIS, (Ref.)

				°	′	″
July	14	.	.	+61	49	55.4

O. ARG. S. 15725, 16h. 25m. 26s.

				°	′	″
June	3	.	.	−23	59	24.2

ζ OPHIUCHI, 16h. 29m. 29s.

				°	′	″
June	15	.	.	−10	16	46.3
	17	.	.			48.4

O. ARG. S. 15784, 16h. 29m. 59s.

				°	′	″
June	13	.	.	−22	36	19.5
July	8	.	.			18.8

O. ARG. S. 15788, 16h. 30m. 7s.

				°	′	″
June	3	.	.	−23	50	46.0

B. A. C. 5556, 16h. 30m. 26s.

				°	′	″
July	13	.	.	−29	38	29.7

LACAILLE 6925, 16h. 31m. 28s.

				°	′	″
June	16	.	.	−28	39	33.0

B. A. C. 5571, 16h. 33m. 9s.

				°	′	″
June	15	.	.	−24	11	31.0
July	2	.	.			32.8
	6	.	.			32.9

ANONYMOUS, 16h. 33m. 48s.

				°	′	″
June	22	.	.	−38	40	19.3

ANONYMOUS, 16h. 35m. 13s.

				°	′	″
June	13	.	.	−39	7	27.7

O. ARG. S. 15881, 16h. 35m. 24s.

				°	′	″
June	17	.	.	−20	25	39.6
July	5	.	.			39.7
	8	.	.			38.6

15 OPHIUCHI, 16h. 36m. 45s.

				°	′	″
June	25	.	.	−22	55	8.7

O. ARG. S. 15950, 16h. 39m. 11s.

				°	′	″
June	15	.	.	−28	42	3.6

LACAILLE 6987, 16h. 40m. 12s.

				°	′	″
July	16	.	.	−33	45	48.9

B. A. C. 5641, 16h. 42m. 51s.

				°	′	″
July	9	.	.	−24	35	23.6

O. ARG. S. 16045, 16h. 44m. 9s.

				°	′	″
July	13	.	.	−19	6	54.4

O. ARG. S. 16047, 16h. 44m. 17s.

				°	′	″
June	13	.	.	−30	11	27.0

WEISSE XVI, 845, 16h. 44m. 23s.

				°	′	″
July	5	.	.	− 8	37	23.5

WEISSE XVI, 854, 16h. 44m. 48s.

				°	′	″
July	2	.	.	− 5	32	55.8

B. A. C. 5663, 16h. 45m. 12s.

				°	′	″
June	15	.	.	−20	10	36.8

22 OPHIUCHI, 16h. 46m. 23s.

				°	′	″
July	14	.	.	−23	16	41.3

O. ARG. S. 16100, 16h. 46m. 43s.

				°	′	″
August	1	.	.	−29	2	44.3

24 OPHIUCHI, 16h. 48m. 23s.

				°	′	″
June	17	.	.	−22	55	26.6

WEISSE 958, 16h. 50m. 56s.

				°	′	″
July	9	.	.	− 4	7	21.7
August	1	.	.			22.1

κ OPHIUCHI, 16h. 51m. 3s.

				°	′	″
August	3	.	.	+ 9	35	44.9

30 OPHIUCHI, 16h. 53m. 40s.

				°	′	″
July	9	.	.	− 4	0	33.8
	26	.	.			32.3

O. ARG. S. 16235, 16h. 53m. 46s.

				°	′	″
July	4	.	.	−20	23	10.3

B. A. C. 5730, 16h. 55m. 1s.

				°	′	″
June	17	.	.	−24	2	11.3
July	2	.	.			12.1

O. ARG. S. 16256, 16h. 55m. 7s.

				°	′	″
July	30	.	.	−19	17	11.5

ANONYMOUS, 16h. 55m. 59s.

				°	′	″
July	5	.	.	−28	42	48.6
August	1	.	.			47.2

O. ARG. S. 16291, 16h. 56m. 0s.

				°	′	″
June	22	.	.	−20	17	37.0

B. A. C. 5768, 16h. 59m. 55s.

				°	′	″
June	22	.	.	−30	12	47.4

ε URSÆ MINORIS, 17h. 0m. 27s.

				°	′	″
June	16	.	.	+82	15	41.7
July	6	.	.			42.4
	13	.	.			40.5
August	3	.	.			42.4

ε URSÆ MINORIS, S. P.

				°	′	″
January	11	.	.	+82	15	38.2
	27	.	.			38.8
February	3	.	.			40.9
	10	.	.			40.3
	12	.	.			38.7
	24	.	.			38.6

B. A. C. 5782, 17h. 2m. 39s.

				°	′	″
June	25	.	.	−39	19	37.8
July	9	.	.			36.4

WEISSE XVII, 46, 17h. 4m. 19s.

				°	′	″
July	16	.	.	− 4	27	54.3
August	1	.	.			55.2

ANONYMOUS, 17h. 4m. 49s.

				°	′	″
July	2	.	.	−39	35	48.4

B. A. C. 5809, 17h. 6m. 58s.

				°	′	″
July	30	.	.	−30	2	41.5

α HERCULIS, 17h. 8m. 16s.

				°	′	″
July	13	.	.	+14	33	10.5
	14	.	.			11.3

α HERCULIS, (Ref.)

				°	′	″
July	5	.	.	+14	33	10.8
	14	.	.			10.6

B. A. C. 5833, 17h. 10m. 16s.

				°	′	″
July	9	.	.	−31	12	25.1

ξ OPHIUCHI, 17h. 12m. 38s.

				°	′	″
July	30	.	.	−20	57	32.3
August	5	.	.			32.2

ANONYMOUS, 17h. 14m. 18s.

				°	′	″
August	1	.	.	−31	33	37.3

ANONYMOUS, 17h. 14m. 45s.

				°	′	″
June	25	.	.	−22	52	10.8
July	16	.	.			11.5

O. ARG. S. 16710, 17h. 15m. 31s.

				°	′	″
June	29	.	.	−30	23	32.8

LACAILLE 7268, 17h. 15m. 47s.

				°	′	″
June	22	.	.	−34	33	41.4
July	2	.	.			41.8

ANONYMOUS, 17h. 15m. 55s.

				°	′	″
July	2	.	.	−34	25	41.5

B. A. C. 5892, 17h. 19m. 42s.

				°	′	″
July	5	.	.	−31	15	41.7
	9	.	.			42.7
	13	.	.			43.7

O. ARG. S. 16844, 17h. 21m. 28s.

				°	′	″
July	14	.	.	−19	21	22.2

β DRACONIS, (Ref.,) 17h. 27m. 16s.

				°	′	″
July	16	.	.	+52	24	24.4

α OPHIUCHI, 17h. 28m. 26s.

				°	′	″
January	24	.	.	+12	39	56.0
	26	.	.			54.7
July	29	.	.			54.8

α OPHIUCHI, (Ref.)

				°	′	″
July	29	.	.	+12	39	53.0

B. A. C. 5943, 17h. 28m. 55s.

				°	′	″
July	9	.	.	−28	20	46.6

ANONYMOUS, 17h. 29m. 12s.

				°	′	″
June	25	.	.	−20	35	54.9

B. A. C. 5946, 17h. 29m. 24s.

				°	′	″
July	5	.	.	−27	57	24.5
	14	.	.			23.6
	23	.	.			25.0

O. ARG. S. 17016, 17h. 30m. 24s.

				°	′	″
June	29	.	.	−26	50	53.4
July	2	.	.			56.8

B. A. C. 5966, 17h. 31m. 56s.

				°	′	″
July	30	.	.	−27	48	41.9

ANONYMOUS, 17h. 33m. 18s.

				°	′	″
July	14	.	.	−34	14	37.4

O. ARG. S. 17091, 17h. 33m. 50s.

				°	′	″
July	25	.	.	−23	16	34.0
August	3	.	.			34.7

ANONYMOUS, 17h. 34m. 30s.

				°	′	″
July	14	.	.	−34	22	47.3

ANONYMOUS, 17h. 35m. 5s.

				°	′	″
July	5	.	.	−31	12	18.6

B. A. C. 5989, 17h. 35m. 46s.

				°	′	″
August	5	.	.	−23	36	37.6

ω DRACONIS, 17h. 37m. 47s.

				°	′	″
July	26	.	.	+68	49	22.9
August	3	.	.			22.1
	9	.	.			23.6

ω DRACONIS, S. P.

				°	′	″
February	8	.	.	+68	49	20.3
	24	.	.			20.3

β SAGITTARII, 17h. 38m. 46s.

				°	′	″
July	30	.	.	−27	46	22.6

O. ARG. S. 17209, 17h. 39m. 12s.

				°	′	″
July	23	.	.	−20	46	48.7

B. A. C. 6015, 17h. 39m. 43s.

				°	′	″
July	25	.	.	−26	55	13.4

B. A. C. 6016, 17h. 40m. 6s.

				°	′	″
July	2	.	.	−31	39	3.5

B. A. C. 6017, 17h. 40m. 18s.

				°	′	″
June	29	.	.	−30	32	38.8

B. A. C. 6023, 17h. 41m. 25s.

				°	′	″
July	5	.	.	−24	9	24.8
August	5	.	.			25.0

B. A. C. 6029, 17h. 42m. 57s.

				°	′	″
June	22	.	.	−34	45	22.9

ANONYMOUS, 17h. 43m. 3s.

				°	′	″
July	29	.	.	−28	34	44.8

B. A. C. 6032, 17h. 43m. 17s.

				°	′	″
June	25	.	.	−31	17	8.1

ψ^1 DRACONIS, 17h. 44m. 26s.

				°	′	″
July	21	.	.	+72	12	57.7
August	1	.	.			59.1

ψ^1 DRACONIS, (Ref.)

				°	′	″
August	1	.	.	+72	12	57.6

ψ^1 DRACONIS, S. P.

				°	′	″
February	8	.	.	+72	12	55.9
	26	.	.			57.3

B. A. C. 6043, 17h. 44m. 38s.

				°	′	″
June	22	.	.	−34	42	56.1

B. A. C. 6046, 17h. 45m. 10s.

				°	′	″
July	9	.	.	−34	25	55.0
August	3	.	.			50.9

O. ARG. S. 17340, 17h. 46m. 19s.

				°	′	″
July	30	.	.	−20	58	49.5

O. ARG. S. 17379, 17h. 48m. 13s.

				°	′	″
July	2	.	.	−27	6	38.9

ANONYMOUS, 17h. 49m. 35s.

				°	′	″
July	5	.	.	−38	33	12.9

ANONYMOUS, 17h. 50m. 12s.

				°	′	″
July	6	.	.	−31	25	28.6

ξ DRACONIS, 17h. 51m. 6s.

				°	′	″
August	4	.	.	+56	53	45.0

ξ DRACONIS, S. P.

				°	′	″
February	26	.	.	+56	53	42.5

B. A. C. 6081, 17h. 51m. 42s.

				°	′	″
June	25	.	.	−20	19	27.4

ANONYMOUS, 17h. 51m. 54s.

				°	′	″
July	30	.	.	−38	4	14.8

γ DRACONIS, 17h. 53m. 21s.

				°	′	″
July	29	.	.	+51	30	24.1

γ DRACONIS, (Ref.)

				°	′	″
July	29	.	.	+51	30	25.3

O. ARG. S. 17506, 17h. 53m. 57s.

				°	′	″
July	23	.	.	−23	1	27.1

ANONYMOUS, 17h. 55m. 26s.

				°	′	″
July	9	.	.	−22	49	38.5

35 DRACONIS, 17h. 55m. 43s.

				°	′	″
June	22	.	.	+76	58	41.6
July	2	.	.			38.8

35 DRACONIS, S. P.

				°	′	″
February	10	.	.	+76	58	43.1
	24	.	.			42.1

O. ARG. S. 17681, 18h. 0m. 8s.

				°	′	″
July	23	.	.	−21	16	3.0

O. ARG. S. 17728, 18h. 1m. 22s.

				°	′	″
July	28	.	.	−19	22	32.7

B. A. C. 6160, 18h. 3m. 6s.

				°	′	″
July	30	.	.	−28	55	35.4

B. A. C. 6161, 18h. 3m. 11s.

				°	′	″
July	16	.	.	−23	43	31.3

μ SAGITTARII, 18h. 5m. 22s.

				°	′	″
June	25	.	.	−21	5	27.9
July	9	.	.			28.9

15 SAGITTARII, 18h. 6m. 55s.

				°	′	″
June	22	.	.	−20	45	59.6

17 SAGITTARII, 18h. 8m. 18s.

				°	′	″
June	22	.	.	−20	35	10.7

B. A. C. 6190, 18h. 8m. 33s.

				°	′	″
July	23	.	.	−28	41	44.3

O. ARG. S. 17975, 18h. 9m. 5s.

				°	′	″
July	16	.	.	−23	38	3.0

B. A. C. 6220, 18h. 13m. 10s.

				°	′	″
July	28	.	.	−28	29	22.5

B. A. C. 6222, 18h. 13m. 34s.

				°	′	″
July	30	.	.	−22	58	54.3

ANONYMOUS, 18h. 15m. 20s.

				°	′	″
June	25	.	.	−38	38	36.0

B. A. C. 6236, 18h. 15m. 31s.

				°	′	″
June	16	.	.	−32	21	35.0
	20	.	.			32.2

O. ARG. S. 18198, 18h. 17m. 17s.

				°	′	″
August	30	.	.	−21	6	35.3

δ URSÆ MINORIS, 18h. 17m. 31s.

			°	′	″
February	23	. .	+86	36	7.9
July	6	. .			7.8
August	3	. .			7.5
	5	. .			8.6
	9	. .			8.3
	12	. .			8.3
	15	. .			9.0
	23	. .			7.6
	29	. .			8.0
October	11	. .			8.0
	17	. .			8.7

δ URSÆ MINORIS, (Ref.)

August	1	. .	+86	36	7.4
	15	. .			7.5

δ URSÆ MINORIS, S. P.

January	27	. .	+86	36	7.3
February	8	. .			6.0
	10	. .			6.9
	24	. .			6.1
March	9	. .			6.0
	18	. .			6.5

δ URSÆ MINORIS, S. P., (Ref.)

January	27	. .	+86	36	7.8
March	9	. .			6.9

B. A. C. 6249, 18h. 17m. 41s.

July	25	. .	−30	27	59.2

ANONYMOUS, 18h. 18m. 10s.

June	25	. .	−29	29	50.5

λ SAGITTARII, 18h. 18s. 22s.

July	5	. .	−25	29	40.9

23 SAGITTARII, 18h. 21m. 59s.

July	11	. .	−23	20	21.9

ANONYMOUS, 18h. 22m. 5s.

June	20	. .	−32	22	40.8

24 URSÆ MINORIS, 18h. 22m. 32s.

September	27	. .	+86	58	47.1
October	7	. .			47.3

O. Arg. S. 18315, 18h. 22m. 37s.

August	5	. .	−21	36	59.4

B. A. C. 6292, 18h. 23m. 7s.

July	30	. .	−18	59	35.4

B. A. C. 6301, 18h. 24m. 16s.

July	30	. .	−19	4	7.2

B. A. C. 6310, 18h. 25m. 17s.

			°	′	″
July	8	. .	−30	59	0.5
	11	. .			0.0

1 AQUILÆ, 18h. 27m. 34s.

July	27	. .	− 8	20	18.5
October	11	. .			19.5

ANONYMOUS, 18h. 29m. 20s.

July	29	. .	−23	30	40.4

ANONYMOUS, 18h. 29m. 40s.

July	25	. .	−23	30	39.8

ANONYMOUS, 18h. 30m. 21s.

June	20	. .	−32	9	8.9

B. A. C. 6346, 18h. 30m. 32s.

July	25	. .	−23	17	59.7
	29	. .			60.5

α LYRÆ, 18h. 32m. 12s.

January	24	. .	+38	39	22.8
	26	. .			21.8
	28	. .			21.5
February	4	. .			21.4
	23	. .			21.0
May	30	. .			20.0
	31	. .			19.8
June	3	. .			20.8
	7	. .			23.4
	22	. .			22.2
	24	. .			20.7
	29	. .			21.8
July	2	. .			21.3
	5	. .			21.6
	6	. .			21.0
	8	. .			21.4
	9	. .			21.8
	11	. .			21.3
	16	. .			20.5
	21	. .			20.7
	22	. .			20.0
	23	. .			20.6
	27	. .			22.1
August	3	. .			21.0
	5	. .			21.2
	9	. .			21.5
	12	. .			21.7
	15	. .			21.4
	23	. .			20.9
	29	. .			21.1
September	27	. .			21.0
October	7	. .			21.4
	10	. .			21.3
	11	. .			20.7
	13	. .			21.0
	14	. .			21.0
	17	. .			21.4
	19	. .			20.9
	21	. .			20.9
	28	. .			21.7
November	10	. .			22.0
	11	. .			21.8
	14	. .			20.2
	25	. .			21.9
December	12	. .			21.7

ANONYMOUS, 18h. 32m. 55s.

			°	′	″
June	27	. .	−31	36	14.8

LACAILLE 7823, 18h. 33m. 12s.

July	25	. .	−39	24	51.6

O. ARG. S. 18564, 18h. 34m. 7s.

August	15	. .	−20	26	28.4

ANONYMOUS, 18h. 34m. 15s.

June	27	. .	−31	46	0.9

O. ARG. S. 18577, 18h. 34m. 42s.

July	30	. .	−19	24	51.1
August	30	. .			50.2

O. ARG. S. 18604, 18h. 35m. 54s.

July	30	. .	−19	27	14.3
August	30	. .			12.8

O. ARG. S. 18623, 18h. 36m. 57s.

August	1	. .	−21	8	22.4

O. ARG. S. 18625, 18h. 36m. 57s.

August	15	. .	−20	47	10.2

LACAILLE 7854, 18h. 38m. 38s.

August	29	. .	−39	44	58.1

B. A. C. 6382, 18h. 38m. 49s.

July	8	. .	−28	25	32.5
	11	. .			31.6

LALANDE, 34916, 18h. 41m. 21s.

August	3	. .	−19	17	44.7
	4	. .			44.3

LACAILLE 7873, 18h. 41m. 30s.

July	25	. .	−39	19	55.3
August	1	. .			54.4

β LYRÆ, 18h. 44m. 55s.

August	9	. .	+33	12	9.3
	12	. .			8.5
	23	. .			8.7
	29	. .			8.8

COMPANION OF β LYRÆ.

August	29	. .	+33	11	29.9

ν^1 SAGITTARII, 18h. 45m. 44s.

July	8	. .	−22	54	46.0
August	4	. .			45.9

ANONYMOUS, 18h. 45m. 48s.

			°	′	″
August	4	. .	−22	51	18.3

ν^2 SAGITTARII, 18h. 46m. 39s.

August	4	. .	−22	50	30.3

ANONYMOUS, 18h. 47m. 8s.

July	2	. .	−39	40	57.0

LACAILLE 7932, 18h. 49m. 33s.

July	2	. .	−39	43	1.0

50 DRACONIS, 18h. 50m. 52s.

June	16	. .	+75	15	60.8
September	27	. .			63.1
October	7	. .			63.1
	10	. .			63.0
	11	. .			62.0

50 DRACONIS, S. P.

February	8	. .	+75	15	59.8
	24	. .			59.6
March	2	. .			59.8

50 DRACONIS, S. P. (Ref.)

March	9	. .	+75	15	61.1

ζ SAGITTARII, 18h. 53m. 44s.

July	5	. .	−30	4	33.3

LACAILLE 7962, 18h. 53m. 46s.

August	4	. .	−38	27	0.0

ζ AQUILÆ, (Ref.,) 18h. 58m. 59s.

June	16	. .	+13	39	32.1

LACAILLE 8045, 19h. 6m. 40s.

August	4	. .	−33	46	5.6

B. A. C. 6607, 19h. 12m. 16s.

August	4	. .	−22	39	31.3

δ DRACONIS, 19h. 12m. 31s.

October	10	. .	+67	24	57.1
	14	. .			57.3

δ DRACONIS, S. P.

March	7	. .	+67	24	55.2

ANONYMOUS, 19h. 12m. 35s.

June	25	. .	−10	12	48.7

ANONYMOUS, 19h. 16m. 5s.

October	7	. .	−23	26	27.3

δ AQUILÆ, 19h. 18m. 26s.

			°	′	″
July	30	. .	+ 2	50	20.1
October	17	. .			20.7

ANONYMOUS, 19h. 23m. 15s.

October	7	. .	—23	23	17.5

B. A. C. 6677, 19h. 23m. 20s.

August	1	. .	—28	30	11.3
October	10	. .			10.8

O. ARG. S. 19715, 19h. 25m. 57s.

October	7	. .	—19	52	7.3
	17	. .			8.0

O. ARG. S. 19732, 19h. 27m. 5s.

October	7	. .	—19	52	51.9

μ AQUILÆ, 19h. 27m. 15s.

September	1	. .	+ 7	5	4.8
	2	. .			5.9

9 VULPECULÆ, 19h. 28m. 23s.

October	10	. .	+19	28	13.1

κ AQUILÆ, 19h. 29m. 20s.

October	14	. .	— 7	20	6.7

κ AQUILÆ, (Ref.)

October	14	. .	— 7	20	8.7

ϵ^1 SAGITTARII, 19h. 32m. 42s.

October	17	. .	—16	36	37.4

LACAILLE 8186, 19h. 32m. 54s.

October	7	. .	—36	57	11.3

O. ARG. S. 19879, 19h. 34m. 9s.

August	1	. .	—24	42	9.0

ANONYMOUS, 19h. 36m. 10s.

August	5	. .	—23	11	9.2

O. ARG. S. 19909, 19h. 36m. 18s.

July	30	. .	—23	35	39.0
October	10	. .			37.9

f SAGITTARII, 19h. 38m. 11s.

September	2	. .	—20	5	38.1

γ AQUILÆ, 19h. 39m. 36s.

August	3	. .	+16	16	30.3

LACAILLE 8231, 19h. 40m. 14s.

			°	′	″
October	10	. .	—38	7	18.1
	17	. .			16.4

a AQUILÆ, 19h. 43m. 57s.

January	26	. .	+ 8	30	7.7
July	30	. .			8.6
August	4	. .			8.7
	9	. .			8.4

a AQUILÆ, (Ref.)

August	9	. .	+ 8	30	7.3

O. ARG. S. 20030, 19h. 44m. 27s.

October	7	. .	—23	30	40.2

B. A. C. 6814, 19h. 45m. 54s.

October	10	. .	—24	17	9.2
	17	. .			9.2

β AQUILÆ, 19h. 48m. 25s.

August	1	. .	+ 6	3	36.1
	3	. .			34.0
	12	. .			34.4

β AQUILÆ, (Ref.)

August	12	. .	+ 6	3	33.3

ε DRACONIS, 19h. 48m. 38s.

September	27	. .	+69	54	43.5

ε DRACONIS, (Ref.)

September	27	. .	+69	54	40.8

g SAGITTARII, 19h. 49m. 59s.

August	5	. .	—15	51	33.5
October	7	. .			35.0
	10	. .			34.4

WEISSE XIX, 1319, 19h. 53m. 14s.

July	25	. .	—14	19	17.1
August	9	. .			17.6
October	14	. .			17.0

LACAILLE 8325, 19h. 55m. 27s.

October	17	. .	—22	57	5.7
	21	. .			5.8

O. ARG. S. 20246, 19h. 59m. 19s.

August	5	. .	—24	16	52.8

WEISSE XIX, 1512, 20h. 0m. 43s.

October	7	. .	—14	39	25.8
	17	. .			25.3

λ URSÆ MINORIS, 20h. 3m. 54s.

			°	′	″
July	28	. .	+88	53	25.3
August	4	. .			25.6
September	1	. .			24.3
	26	. .			26.0
October	14	. .			26.1
	21	. .			25.5

λ URSÆ MINORIS, (Ref.)

July	28	. .	+88	53	25.0

λ URSÆ MINORIS, S. P.

January	22	. .	+88	53	23.7
February	19	. .			25.1
April	6	. .			23.4

WEISSE XX, 81, 20h. 4m. 57s.

August	5	. .	—14	12	22.2

O. ARG. S. 20337, 20h. 6m. 41s.

August	29	. .	—15	45	17.6

b^3 CYGNI, 20h. 9m. 18s.

August	3	. .	+36	22	46.6
September	2	. .			47.2
	28	. .			46.8

a^1 CAPRICORNI, 20h. 9m. 53s.

August	5	. .	—12	56	14.9
	12	. .			16.3
October	13	. .			16.4
	21	. .			17.0

33 CYGNI, 20h. 10m. 8s.

September	2	. .	+56	7	51.4

a^2 CAPRICORNI, 20h. 10m. 17s.

August	5	. .	—12	58	32.4
	12	. .			32.5
September	1	. .			31.9
October	7	. .			31.9
	13	. .			32.2
	14	. .			31.9
	21	. .			32.6

a^2 CAPRICORNI, (Ref.)

October	17	. .	—12	58	32.8

B. A. C. 6992, 20h. 12m. 54s.

August	3	. .	—15	13	22.2

O. ARG. S. 20423, 20h. 12m. 58s.

July	30	. .	—17	6	1.6

β CAPRICORNI, 20h. 13m. 8s.

August	3	. .	—15	13	12.4

κ CEPHEI, S. P., 20h. 13m. 32s.

			°	′	″
February	22	. .	+77	17	13.2
April	6	. .			16.0

ANONYMOUS, 20h. 14m. 12s.

October	21	. .	—33	29	31.5

O. ARG. S. 20443, 20h. 14m. 23s.

October	10	. .	—22	47	15.4

B. A. C. 7034, 20h. 19m. 36s.

October	7	. .	—26	3	53.5
	14	. .			55.4

ANONYMOUS, 20h. 19m. 52s.

October	10	. .	—35	49	21.4

B. A. C. 7039, 20h. 20m. 10s.

August	31	. .	—24	37	7.0

B. A. C. 7040, 20h. 20m. 26s.

August	31	. .	—24	26	29.4

B. A. C. 7049, 20h. 21m. 20s.

August	29	. .	—22	51	8.5

O. ARG. S. 20544, 20h. 21m. 24s.

August	3	. .	—23	18	27.8

ω^1 CYGNI, 20h. 22m. 45s.

October	21	. .	+48	55	13.3

B.A.C.7079,(1st & S. *,)20h.24m.31s.

October	13	. .	+10	47	28.5
	17	. .			29.2

B.A.C.7079, (2d & N.*,)20h.24m.31s.

October	13	. .	+10	47	32.0
	17	. .			32.7

ω^2 CYGNI, 20h. 25m. 41s.

October	7	. .	+48	28	58.0
	10	. .			56.9

LACAILLE 8492, 20h. 26m. 8s.

October	14	. .	—30	56	56.4

ε DELPHINI, 20h. 26m. 31s.

October	13	. .	+10	49	48.7
	17	. .			49.3

B. A. C. 7111, 20h. 29m. 32s.

August	30	. .	—22	55	38.0

B. A. C. 7113, 20h. 29m. 50s.

				°	′	″
August	29	.	.	−24	42	46.8

ANONYMOUS, 20h. 30m. 23s.

				°	′	″
October	21	.	.	−33	38	48.0

B. A. C. 7124, 20h. 30m. 35s.

				°	′	″
September	1	.	.	+72	3	25.5

B. A. C. 7124, (Ref.)

				°	′	″
September	1	.	.	+72	3	25.8

B. A. C. 7124, S. P.

				°	′	″
February	22	.	.	+72	3	22.4
April	6	.	.			25.0

LACAILLE 8513, 20h. 31m. 23s.

				°	′	″
August	31	.	.	−36	17	17.8

τ^2 CAPRICORNI, 20h. 31m. 24s.

				°	′	″
October	14	.	.	−15	26	34.9

B. A. C. 7147, 20h. 33m. 2s.

				°	′	″
July	30	.	.	−26	29	34.6
October	7	.	.			32.9

LACAILLE 8537, 20h. 34m. 45s.

				°	′	″
October	11	.	.	−29	54	54.0
	17	.	.			52.8

LACAILLE 8540, 20h. 35m. 47s.

				°	′	″
August	31	.	.	−36	19	48.4

α CYGNI, 20h. 36m. 40s.

				°	′	″
July	28	.	.	+44	46	54.4
August	12	.	.			54.1
October	7	.	.			54.5

α CYGNI, (Ref.)

				°	′	″
July	28	.	.	+44	46	52.3
August	12	.	.			53.3
October	4	.	.			52.2

B. A. C. 7181, 20h. 38m. 3s.

				°	′	″
September	26	.	.	−27	22	29.5
October	14	.	.			28.3

O. ARG. S. 20819, 20h. 38m. 6s.

				°	′	″
August	29	.	.	−24	13	49.0

ANONYMOUS, 20h. 38m. 51s.

				°	′	″
October	18	.	.	−28	12	25.7

ANONYMOUS, 20h. 39m. 27s.

				°	′	″
October	18	.	.	−28	15	41.5

ε AQUARII, 20h. 40m. 5s.

				°	′	″
October	13	.	.	−10	0	19.9
	17	.	.			19.4

B. A. C. 7205, 20h. 40m. 58s.

				°	′	″
July	30	.	.	−26	17	41.7
September	28	.	.			41.5

η CEPHEI, 20h. 42m. 26s.

				°	′	″
October	10	.	.	+61	17	50.0
	21	.	.			49.0

η CEPHEI, (Ref.)

				°	′	″
October	10	.	.	+61	17	51.6
	21	.	.			50.4

LACAILLE 8608, 20h. 44m. 34s.

				°	′	″
October	7	.	.	−32	2	12.4

μ AQUARII, 20h. 45m. 6s.

				°	′	″
September	1	.	.	− 9	30	20.7

μ AQUARII, (Ref.)

				°	′	″
September	1	.	.	− 9	30	22.3

LACAILLE 8616, 20h. 45m. 42s.

				°	′	″
October	11	.	.	−28	27	3.1
	14	.	.			3.9

B. A. C. 7244, 20h. 45m. 50s.

				°	′	″
August	29	.	.	−24	48	20.8

O. ARG. S. 20951, 20h. 47m. 6s.

				°	′	″
September	28	.	.	−15	48	42.2

57 CYGNI, 20h. 48m. 18s.

				°	′	″
October	17	.	.	+43	51	31.1

ν CYGNI, 20h. 51m. 57s.

				°	′	″
October	18	.	.	+40	37	48.1

76 DRACONIS, 20h. 52m. 29s.

				°	′	″
November	5	.	.	+82	0	35.3

76 DRACONIS, S. P.

				°	′	″
April	18	.	.	+82	0	33.9
	19	.	.			34.2

ANONYMOUS, 20h. 52m. 29s.

				°	′	″
September	28	.	.	−35	43	31.6

B. A. C. 7290, 20h. 53m. 16s.

				°	′	″
October	7	.	.	+43	55	41.6
	14	.	.			41.7

RADCLIFFE 5050, 20h. 53m. 22s.

				°	′	″
October	7	.	.	+43	52	24.5
	14	.	.			23.6

B. A. C. 7299, S. P., 20h. 53m. 49s.

				°	′	″
April	6	.	.	+80	1	29.4
	18	.	.			29.2
	19	.	.			29.7

LACAILLE 8658, 20h. 54m. 22s.

				°	′	″
October	11	.	.	−29	39	30.7

O. ARG. S. 21053, 20h. 54m. 48s.

				°	′	″
August	29	.	.	−19	47	47.2
October	17	.	.			47.7

B. A. C. 7312, 20h. 56m. 59s.

				°	′	″
October	18	.	.	−17	42	59.1

θ CAPRICORNI, 20h. 58m. 4s.

				°	′	″
October	18	.	.	−17	47	10.6

O. ARG. S. 21129, 20h. 59m. 52s.

				°	′	″
July	30	.	.	−22	53	40.7

O. ARG. S. 21148, 21h. 0m. 43s.

				°	′	″
November	5	.	.	−23	29	31.7

f^2 CYGNI, 21h. 1m. 46s.

				°	′	″
August	29	.	.	+47	5	13.6

O. ARG. S. 21163, 21h. 1m. 54s.

				°	′	″
September	28	.	.	−23	5	29.0

B. A. C. 7347, 21h. 2m. 25s.

				°	′	″
September	28	.	.	−23	2	40.3
October	17	.	.			41.1

ζ PISCIS AUSTRALIS, 21h. 4m. 58s.

				°	′	″
October	11	.	.	−28	11	15.6

LACAILLE 8741, 21h. 6m. 33s.

				°	′	″
October	18	.	.	−26	29	12.9

ζ CYGNI, 21h. 6m. 59s.

				°	′	″
July	28	.	.	+29	39	15.7
August	31	.	.			17.4
September	1	.	.			15.9

ζ CYGNI, (Ref.)

				°	′	″
September	1	.	.	+29	39	16.2
	26	.	.			16.5
October	7	.	.			16.0
	10	.	.			(17.7)

29 CAPRICORNI, 21h. 7m. 57s.

				°	′	″
September	28	.	.	−15	45	2.0
October	14	.	.			2.0

α EQUULEI, 21h. 8m. 49s.

				°	′	″
September	2	.	.	+ 4	40	16.4
October	17	.	.			17.1

O. ARG. S. 21290, 21h. 10m. 51s.

				°	′	″
October	25	.	.	−22	37	19.9
November	5	.	.			20.1

LACAILLE 8777, 21h. 11m. 39s.

				°	′	″
October	11	.	.	−26	55	36.9

LACAILLE 8787, 21h. 13m. 31s.

				°	′	″
August	31	.	.	−29	45	26.6

B. A. C. 7413, 21h. 14m. 57s.

				°	′	″
October	14	.	.	−23	15	50.3
	17	.	.			50.9

α CEPHEI, 21h. 15m. 14s.

				°	′	″
September	2	.	.	+61	59	36.1
	26	.	.			36.6
October	10	.	.			36.0

α CEPHEI, (Ref.)

				°	′	″
September	26	.	.	+61	59	35.8
October	10	.	.			35.8

ANONYMOUS, 21h. 18m. 14s.

				°	′	″
November	5	.	.	−22	25	54.4

ζ CAPRICORNI, 21h. 18m. 40s.

				°	′	″
July	30	.	.	−23	0	53.8
September	1	.	.			55.1

LACAILLE 8821, 21h. 19m. 19s.

				°	′	″
October	18	.	.	−28	19	50.9
	20	.	.			50.7

b CAPRICORNI, 21h. 20m. 43s.

				°	′	″
November	5	.	.	−22	24	51.2

LACAILLE 8834, 21h. 22m. 35s.

				°	′	″
October	14	.	.	−26	19	17.8

O. ARG. S. 21441, 21h. 23m. 33s.

				°	′	″
September	28	.	.	−25	54	51.2

LACAILLE 8839, 21h. 23m. 46s.

		°	′	″
September	1	−26	1	34.4
	28			33.9

β AQUARII, 21h. 24m. 11s.

		°	′	″
September	2	− 6	11	4.3

β CEPHEI, S. P., 21h. 26m. 51s.

		°	′	″
April	19	+69	56	47.2
	25			47.4
	29			45.5

O. ARG. S. 21480, 21h. 26m. 51s.

		°	′	″	
November	5	−15	14	55.3	:

8 PISCIS AUSTRALIS, 21h. 28m. 3s.

		°	′	″
October	18	−26	47	35.5
	20			34.9

7 PISCIS AUSTRALIS, 21h. 28m. 23s.

		°	′	″
September	26	−33	40	17.5

ε CAPRICORNI, 21h. 29m. 15s.

		°	′	″
September	1	−20	5	26.9
October	14			27.7

WEISSE XXI, 739, 21h. 31m. 31s.

		°	′	″
October	29	−14	41	15.2

ANONYMOUS, 21h. 33m. 18s.

		°	′	″
October	11	−33	9	44.6
	14			45.3

LACAILLE 8889, 21h. 33m. 52s.

		°	′	″
October	11	−33	8	30.0
	14			29.0

9 CEPHEI, 21h. 34m. 9s.

		°	′	″
October	20	+61	27	5.3

O. ARG. S. 21596, 21h. 36m. 12s.

		°	′	″
November	1	−18	49	10.4
	5			11.9

45 CAPRICORNI, 21h. 36m. 21s.

		°	′	″
September	26	−15	23	17.8
October	7			18.6

ε PEGASI, 21h. 37m. 19s.

		°	′	″
October	12	+ 9	14	6.6

ε PEGASI, (Ref.)

		°	′	″
October	12	+ 9	14	6.9

O. ARG. S. 21629, 21h. 38m. 53s.

		°	′	″
October	25	−18	47	53.9
November	5			53.0

11 CEPHEI, 21h. 39m. 52s.

		°	′	″
October	17	+70	40	4.7

11 CEPHEI, (Ref.)

		°	′	″
October	17	+70	40	2.7

11 CEPHEI, S. P.

		°	′	″
April	7	+70	40	1.4
	13			2.7

O. ARG. S. 21645, 21h. 39m. 57s.

		°	′	″
November	1	−18	51	31.1
	5			33.5

LACAILLE 8923, 21h. 40m. 7s.

		°	′	″
October	13	−26	31	24.5
	14			25.1

LACAILLE 8934, 21h. 41m. 51s.

		°	′	″
September	1	−28	2	57.8

LACAILLE 8947, 21h. 44m. 27s.

		°	′	″
September	1	−27	58	10.4
November	5			10.6

γ GRUIS, 21h. 45m. 26s.

		°	′	″
September	26	−38	1	16.8
October	25			17.0

μ CAPRICORNI, 21h. 45m. 39s.

		°	′	″
October	20	−14	12	29.3

B. A. C. 7630, 21h. 47m. 21s.

		°	′	″
October	7	−15	54	58.9

B. A. C. 7632, 21h. 47m. 56s.

		°	′	″
October	14	−37	54	54.8

μ CEPHEI, 21h. 50m. 11s.

		°	′	″
October	13	+55	56	57.8

79 DRACONIS, S. P., 21h. 51m. 8s.

		°	′	″
April	7	+73	2	24.0

LACAILLE 8981, 21h. 51m. 26s.

		°	′	″
September	26	−29	43	24.5

LACAILLE 8993, 21h. 53m. 11s.

		°	′	″
October	7	−34	30	12.3
November	1			11.6

B. A. C. 7665, 21h. 54m. 28s.

		°	′	″
September	1	−18	34	24.4
October	25			23.7

LACAILLE 9003, 21h. 54m. 41s.

		°	′	″
October	20	−28	2	18.1

29^1 AQUARII, 21h. 54m. 45s.

		°	′	″
October	14	−17	38	15.9

29^2 AQUARII, 21h. 54m. 45s.

		°	′	″
October	13	−17	38	12.6
	14			14.0

O. ARG. S. 21841, 21h. 56m. 20s.

		°	′	″
November	1	−22	27	20.7
	5			20.3

λ GRUIS, 21h. 57m. 38s.

		°	′	″
October	7	−40	13	3.2

α AQUARII, 21h. 58m. 36s.

		°	′	″
November	14	− 0	59	53.2
	25			55.6

O. ARG. S. 21912, 22h. 0m. 32s.

		°	′	″
November	10	−18	30	52.8

O. ARG. N. 23385, 22h. 0m. 53s.

		°	′	″
September	26	+52	56	34.5

O. ARG. S. 21915, 22h. 0m. 54s.:

		°	′	″
November	5	−22	22	19.7

36 AQUARII, 22h. 2m. 1s.

		°	′	″
October	14	− 8	52	29.6
	25			18.2

O. ARG. N. 23452, 22h. 2m. 16s.

		°	′	″
October	7	+52	37	28.9
November	1			28.5

39 AQUARII, 22h. 4m. 52s.

		°	′	″
October	13	−14	52	52.8
	25			52.2

B. A. C. 7745, 22h. 5m. 51s.

		°	′	″
October	20	−25	52	19.2
November	1			20.0

ζ CEPHEI, 22h. 6m. 0s.

		°	′	″
September	26	+57	30	43.9

LACAILLE 9113, 22h. 15m. 21s.

		°	′	″
October	18	−26	32	37.1
	20			37.2

O. ARG. S. 22146, 22h. 18m. 28s.

		°	′	″
September	26	−19	3	52.3
November	14			50.2

35 PEGASI, 22h. 20m. 44s.

		°	′	″
November	1	+ 3	59	41.4

56^1 AQUARII, 22h. 22m. 47s.

		°	′	″
October	12	−15	17	59.5

B. A. C. 7851, 22h. 23m. 57s.

		°	′	″
October	13	+85	24	4.1

B. A. C. 7851, (Ref.)

		°	′	″
November	10	+85	24	5.5

B. A. C. 7851, S. P.

		°	′	″	
February	22	+85	24	3.2	
May	4			4.4	
	6			(7.1)	

η AQUARII, 22h. 28m. 10s.

		°	′	″
September	28	− 0	50	16.1

η AQUARII, (Ref.)

		°	′	″
September	28	− 0	50	16.8

σ^1 GRUIS, 22h. 28m. 17s.

		°	′	″
September	26	−41	18	14.4
October	7			15.8
	25			13.3

B. A. C. 7872, 22h. 28m. 41s.

		°	′	″
October	11	−32	23	9.8
	12			7.9

ANONYMOUS, 22h. 28m. 45s.

		°	′	″
October	11	−32	21	55.4
	12			53.8

σ^2 GRUIS, 22h. 28m. 55s.

		°	′	″
September	26	−41	18	46.3
October	7			48.1
	25			45.7

κ AQUARII, 22h. 30m. 30s.

		°	′	″
October	18	− 4	56	54.7
	20			52.7

ε PISCIS AUSTRALIS, 22h. 32m. 53s.

		°	′	″
November	19	−27	46	20.0

ζ PEGASI, 22h. 34m. 28s.

		°	′	″
October	10	+10		5.6
	14			7.4

ζ PEGASI, (Ref.)

				°	′	″
October	10	.	.	+10	6	6.3
	14	.	.			6.3

12 LACERTÆ, 22h. 35m. 12s.

October	18	.	.	+39	29	43.5
	20	.	.			43.1

O. ARG. N. 24532, 22h. 35m. 58s.

September	26	.	.	+54	39	21.4
October	12	.	.			21.0

O. ARG. S. 22373, 22h. 36m. 45s.

November	10	.	.	−27	1	30.2

LACAILLE 9256, 22h. 40m. 14s.

November	14	.	.	−26	38	40.5
	19	.	.			42.1

B. A. C. 7953, 22h. 41m. 49s.

October	12	.	.	+57	44	42.7
	25	.	.			42.6

τ^2 AQUARII, 22h. 42m. 10s.

November	14	.	.	−14	19	47.5

ι CEPHEI, 22h. 44m. 52s.

October	14	.	.	+65	27	53.6

ι CEPHEI, (Ref.)

October	14	.	.	+65	27	53.5

ι CEPHEI, S. P.

April	7	.	.	+65	27	50.3
	29	.	.			49.7
May	4	.	.			50.5

λ AQUARII, 22h. 45m. 18s.

October	10	.	.	−	8	19 23.7

λ AQUARII, (Ref.)

October	10	.	.	−	8	19 23.2

B. A. C. 7990, S. P., 22h. 47m. 55s.

April	25	.	.	+82	24	39.8
	29	.	.			37.9
May	4	.	.			37.9

α PISCIS AUSTRALIS, 22h. 49m. 55s.

April	17	.	.	−30	31	47.7
October	13	.	.			48.1
	18	.	.			46.8
	20	.	.			46.4
November	14	.	.			48.9

B. A. C. 8026, (Ref.,) 22h. 55m. 23s.

October	10	.	.	+83	35	49.1
November	10	.	.			48.5

α PEGASI, 22h. 57m. 48s.

				°	′	″
January	27	.	.	+14	27	11.9
April	17	.	.			9.6
September	26	.	.			9.7
October	20	.	.			(15.5)

α PEGASI, (Ref.)

September	26	.	.	+14	27	8.5

59 PEGASI, 23h. 4m. 40s.

October	18	.	.	+	7	57 40.0
	20	.	.			41.5

O. ARG. S. 22687, 23h. 6m. 32s.

November	10	.	.	−23	55	55.9
December	6	.	.			56.4

LACAILLE 9425, 23h. 9m. 0s.

November	10	.	.	−23	59	14.2

LALANDE 45545, 23h. 9m. 16s.

October	12	.	.	−16	19	30.5
November	1	.	.			30.4

O. ARG. S. 22723, 23h. 9m. 22s.

November	29	.	.	−21	57	53.4

ANONYMOUS, 23h. 12m. 28s.

November	24	.	.	−39	12	30.6

LACAILLE 9447, 23h. 12m. 36s.

October	18	.	.	−23	35	14.8
	20	.	.			15.6

ANONYMOUS, 23h. 12m. 57s.

November	24	.	.	−39	15	40.3

ANONYMOUS, 23h. 13m. 11s.

December	6	.	.	−34	39	48.4

97 AQUARII, 23h. 15m. 18s.

October	12	.	.	−15	48	25.1

ANONYMOUS, 23h. 16m. 14s.

November	1	.	.	−34	8	38.7
	12	.	.			36.9

LALANDE 45892, 23h. 19m. 38s.

November	14	.	.	−16	0	57.6

9 PISCIUM, 23h. 20m. 4s.

October	18	.	.	+	0	21 14.7
	20	.	.			15.6

ANONYMOUS, 23h. 20m. 9s.

				°	′	″
November	24	.	.	−34	23	38.2
	29	.	.			40.7
December	6	.	.			39.0

B. A. C. 8172, 23h. 20m. 28s.

October	12	.	.	−36	18	52.3

O. ARG. S. 22851, 23h. 20m. 37s.

November	14	.	.	−16	4	6.9

ANONYMOUS, 23h. 23m. 6s.

November	1	.	.	−39	5	60.2
	12	.	.			59.9

ANONYMOUS, 23h. 27m. 9s.

November	1	.	.	−39	2	22.9
	12	.	.			22.8

LACAILLE 9524, 23h. 27m. 27s.

October	12	.	.	−35	48	1.7

B. A. C. 8213, 23h. 27m. 47s.

November	24	.	.	+86	32	7.2
December	6	.	.			7.5

B. A. C. 8213, (Ref.)

November	29	.	.	+86	32	7.8

B. A. C. 8213, S. P.

March	9	.	.	+86	32	6.2
April	6	.	.			5.2
	18	.	.			5.9
	21	.	.			6.3
	29	.	.			5.8

γ CEPHEI, S. P., 23h. 33m. 38s.

April	29	.	.	+76	51	2.8
May	17	.	.			3.0:
	19	.	.			4.6
	20	.	.			5.3

A^1 AQUARII, 23h. 34m. 18s.

October	12	.	.	−18	48	0.9

τ CASSIOPEÆ, 23h. 40m. 13s.

November	1	.	.	+57	52	20.5
	10	.	.			21.8

τ CASSIOPEÆ, (Ref.)

November	1	.	.	+57	52	20.3
	10	.	.			20.6

τ CASSIOPEÆ, S. P.

				°	′	″
March	7	.	.	+57	52	21.9
April	6	.	.			19.5
	21	.	.			15.6

B. A. C. 8287, 23h. 43m. 18s.:

November	5	.	.	−21	0	37.0
	24	.	.			37.5

O. ARG. S. 23082, 23h. 43m. 31s.

November	12	.	.	−19	4	8.9
December	6	.	.			8.9

108 AQUARII, 23h. 44m. 7s.

November	14	.	.	−19	41	12 5

O. ARG. S. 23096, 23h. 45m. 3s.

November	12	.	.	−18	48	12.8
	24	.	.			14.6

LALANDE 46769, 23h. 45m. 26s.

November	14	.	.	−19	20	22.8

B. A. C. 8314, 23h. 48m. 4s.

October	12	.	.	+73	37	53.3
November	29	.	.			55.1

B. A. C. 8314, (Ref.)

October	12	.	.	+73	37	52.1
November	29	.	.			53.7

B. A. C. 8314, S. P.

April	18	.	.	+73	37	52.8
	21	.	.			52.4
May	16	.	.			51.5
	20	.	.			54.1

O. ARG. S. 23176, 23h. 52m. 54s.

November	1	.	.	−18	47	31.1
	12	.	.			30.4
	24	.	.			32.1

29 PISCIUM, 23h. 54m. 38s.

October	28	.	.	−	3	48 22.2
	31	.	.			22.1

O. ARG. S. 23204, 23h. 55m. 45s.

November	10	.	.	−20	49	41.1
	14	.	.			40.4

LACAILLE 9715, 23h. 58m. 8s.

November	12	.	.	−39	38	15.5

B. A. C. 8375, 23h. 59m. 43s.

November	12	.	.	−39	39	26.3

RIGHT ASCENSIONS, DECLINATIONS, AND SEMI-DIAMETERS

OF THE

SUN, MOON, AND PLANETS,

FROM OBSERVATIONS WITH THE

TRANSIT INSTRUMENT AND MURAL CIRCLE

IN

1864.

RIGHT ASCENSIONS, DECLINATIONS AND SEMI-DIAMETERS

OF THE

SUN, MOON, AND PLANETS.

SUN.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	m. s.		h. m. s.	s.	m. s.	s.		° ′ ″	″	′ ″	″
Jan. 2	+ 4 12.3	. .	18 50 36.95	+ 0.09	1 11.18	— 0.14	. .	— 22 56 41.7	— 0.5	16 19.3	— 0.9
8	6 54.1	. .	19 16 58.46	0.16	1 10.68	0.00	. .	22 16 32.2	— 0.2	18.6	0.3
9	7 19.4	. .	19 21 20.43	0.14	1 10.56	+ 0.05	. .	22 8 20.0	+ 2.4	19.5	— 1.3
11	8 8.4	. .	19 30 2.79	+ 0.01	1 10.52	— 0.06	. .	21 50 29.8	— 0.4	17.9	+ 0.2
12	8 32.0	. .	19 34 23.02	— 0.01	1 10.39	— 0.01	. .	21 40 57.7	— 0.4	17.1	1.0
14	9 17.3	. .	19 43 1.22	+ 0.30	1 10.16	+ 0.05	. .	21 20 41.3	+ 2.2	17.0	+ 0.9
16	9 59.9	. .	19 51 37.34	— 0.01	1 10.02	0.01	. .	20 58 40.6	— 0.9	18.8	— 1.0
21	11 33.6	. .	. . . .	. .	1 9.46	+ 0.07	. .	19 56 55.3	+ 0.6	19.3	— 1.9
22	11 50.1	. .	20 17 7.06	+ 0.09	1 9.47	— 0.05	. .	19 43 24.9	— 0.2	17.3	0.0
23	12 5.8	. .	20 21 19.37	0.07	1 9.24	+ 0.07	S.	19 29 31.9	— 1.7		
25	12 34.7	. .	20 29 41.56	0.07	1 9.02	0.07					
26	12 48.0	. .	20 33 51.47	0.06	1 8.87	+ 0.11	. .	18 45 51.4	+ 0.6	15.6	+ 1.3
27	13 0.6	. .	20 38 0.56	0.07	1 8.89	— 0.02	. .	18 30 35.5	0.5	16.2	+ 0.5
28	13 12.3	. .	20 42 8.78	+ 0.15	1 8.68	+ 0.08	. .	18 15 1.0	+ 1.9	17.7	— 1.1
29	13 23.2	. .	20 46 16.44	— 0.01	1 8.69	— 0.05	S.	17 59 3.5	— 1.1		
Feb. 5	14 17.1	. .	21 14 46.31	+ 0.06	1 7.77	+ 0.05	S.	15 58 55.0			
8	14 28.1	. .	21 26 46.94:	0.14	1 7.44	0.04	. .	15 3 8.0	— 0.8	12.8	+ 2.0
10	14 31.5	. .	21 34 43.52	0.04	1 7.25	0.01	. .	14 24 41.5	— 0.7	14.2	0.2
11	14 32.0	. .	21 38 40.43	0.17	1 7.12	0.03	. .	14 5 7.2	+ 0.1	13.7	0.6
12	14 31.7	. .	21 42 36.70	0.14	1 6.98	0.06	. .	13 45 18.6	0.2	11.7	+ 2.4
13	14 30.6	. .	21 46 31.98	0.32	1 6.88	0.05	. .	13 25 16.3	0.1	14.5	— 0.6
16	14 22.7	. .	21 58 14.03	0.10	1 6.53	0.09	. .	12 23 56.3	3.2	14.0	— 0.7
18	14 13.8	. .	. . . .	. .	. . .	. .	. .	11 41 59.7	+ 1.5	10.9	+ 2.0
19	14 8.3	II.	22 9 49.31	0.00	. . .	. .	. .	11 20 43.4	— 0.7	11.1	1.6
20	14 2.1	. .	22 13 39.45	0.19	1 6.15	0.07	. .	10 59 21.2	+ 1.8	11.7	0.8
23	13 39.5	. .	22 25 6.41	+ 0.24	1 5.94	0.01	. .	9 54 4.5	— 1.1	11.5	0.4
24	13 30.7	. .	22 28 54.46	— 0.05	1 5.78	0.08	. .	9 32 1.2	1.1	9.1	2.5
26	13 11.4	. .	22 36 28.23	— 0.05	1 5.66	0.03	. .	8 47 28.9	1.8	10.2	1.2
27	13 0.9	. .	22 40 14.07	+ 0.13	1 5.50	0.11	. .	8 25 1.7	1.0	8.4	+ 2.7
Mar. 2	12 13.8	. .	22 55 13.05	0.11	1 5.23	0.07	. .	6 53 58.9	1.0	10.5	— 0.7
3	12 0.9	. .	22 58 56.61	+ 0.09	1 5.16	+ 0.07	. .	6 30 56.2	2.2	13.0	— 3.4
4	11 47.4	. .	23 2 39.86	— 0.06	1 5.17	— 0.01	. .	6 7 50.9	— 0.6	8.3	+ 1.1
7	11 4.7	. .	23 13 46.61	0.00	1 4.95	+ 0.03	. .	4 58 10.0	. .	7.3	1.3
9	10 34.3	. .	23 21 9.02	+ 0.21	1 4.88	0.00	. .	4 11 9.6	+ 0.3	7.5	0.5
12	9 46.2	II.	23 32 10.51	0.11	. . .	. .	. .	3 0 29.9	+ 1.7	6.2	1.0
14	9 12.6	. .	23 39 29.95	0.08	1 4.70	— 0.04	. .	2 13 10.7	0.0	5.2	1.5
16	8 37.9	. .	23 46 48.37	0.03	1 4.53	+ 0.07					
17	8 20.3	. .	23 50 27.19	0.07	1 4.57	0.01	. .	1 2 5.3	— 1.5	5.2	0.7
18	8 2.4	. .	23 54 5.90	0.02	1 4.47	+ 0.09	. .	0 38 24.6	0.3	4.2	+ 1.5
19	7 44.4	II.	23 57 44.20:	0.20	. . .	. .	. .	— 0 14 43.2	0.1	6.1	— 0.7
21	7 7.9	. .	0 5 0.86:	+ 0.10	1 4.56	— 0.06					
23	6 31.1	. .	0 12 17.21	— 0.10	1 4.38	— 0.10	. .	+ 1 19 53.5	0.1	16 3.2	+ 1.1
24	6 12.6	. .	0 15 54.98	+ 0.10	1 4.42	+ 0.05	N.	1 43 29.1			
28	4 58.4	. .	0 30 26.77	0.18	1 4.45	0.01	N.	3 17 24.3			
April 7	1 59.9	II.	1 6 53.47	0.00	. . .	. .	. .	7 7 0.0	1.2	15 57.0	3.1
8	1 43.1	. .	. . . .	. .	. . .	. .	. .	7 29 23.4	1.0	58.0	1.8
12 +	0 38.3	II.	1 25 14.27	+ 0.14	. . .	. .	. .	7 51 39.2	0.8	57.7	+ 1.1
18 —	0 49.5	II.	1 47 25.63	— 0.01	. . .	. .	. .	11 5 24.1	0.8	57.9	— 0.7
19	1 2.9	. .	1 51 8.73	+ 0.06	1 5.22	0.03	N.	11 26 6.5	1.4		
22	1 40.4	. .	2 2 20.85	— 0.01	1 5.40	0.05	. .	12 27 1.4	2.0	54.7	+ 1.5
23	1 52.0	. .	2 6 5.78	— 0.01	1 5.40	0.12	. .	12 46 55.3	— 1.6	54.0	+ 1.9
25	2 13.7	. .	2 13 37.05	+ 0.01	1 5.64	0.02	. .	13 26 1.7	+ 2.8	55.7	— 0.3
26	2 23.9	II.	2 17 23.46	— 0.01	. . .	. .	. .	13 45 20.5	— 0.1	53.8	+ 1.4
27	2 33.5	II.	2 21 10.46	— 0.08	. . .	. .	. .	14 4 23.9	1.1	54.2	+ 0.7
28	2 42.6	. .	2 24 57.77	+ 0.07	1 5.82	0.06	. .	14 23 13.3	1.9	54.9	— 0.2
29 —	2 51.1	. .	2 28 45.74	+ 0.10	1 5.90	+ 0.06	. .	+ 14 41 46.8	— 1.0	15 53.8	+ 0.6

SUN.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	m. s.		h. m. s.	s.	m. s.	s.		° ′ ″	″	′ ″	″
May 2	— 3 13.4	. .	. . . .	. .	. . .	. .	. .	+ 15 36 2.3	— 1.1	15 51.4	+ 2.3
4	3 25.5	. .	2 47 54.09	+ 0.07	1 6.33	+ 0.03	. .	16 10 55.7	0.7	52.8	0.4
5	3 30.6	. .	2 51 45.48	0.04	1 6.42	0.02	. .	16 27 58.2	— 0.2	52.4	0.6
6	3 35.2	. .	2 55 37.40	0.05	1 6.49	0.03					
7	3 39.3	II.	2 59 29.87	+ 0.08	. . .	. .	. .	17 1 12.5	+ 2.0	51.8	0.7
9	3 49.7		. . . .	. .	1 6.73	0.03	N.	17 33 20.5	2.4		
18	3 46.9	. .	3 42 44.46	— 0.06	1 7.43	+ 0.07	S.	19 42 55.4	0.7		
19	3 44.3	. .	. . . .	. .	. . .	. .	S.	19 55 42.1	+ 0.8		
20	3 41.1	.	. . . .	. .	1 7.67	— 0.02	N.	20 8 10.2	— 0.8		
23	3 28.6	II.	4 2 45.63	+ 0.01	. . .	. .	S.	20 43 26.8	2.6		
24	3 23.3	. .	4 6 47.35	0.13	1 7.90	+ 0.05	. .	20 54 27.5:	— 0.7	47.6	1.7
25	3 17.5	. .	4 10 49.74	0.09	1 7.98	+ 0.04					
27	3 4.4	. .	. . . .	. .	. . .	. .	. .	21 25 21.1	+ 3.8	46.4:	+ 2.5
28	2 57.1	. .	4 22 59.76	+ 0.16	1 8.24	— 0.02	. .	21 34 58.8	+ 1.3	49.7	— 1.0
30	2 41.1	. .	4 30 9.06	— 0.01	1 8.34	0.00	. .	21 53 3.9	— 0.6	48.6	— 0.2
June 1	2 23.4	. .	4 39 19.94	0.01	1 8.40	+ 0.05	. .	22 9 35.6	0.3	46.9	+ 1.3
4	1 53.9	. .	. . . .	. .	1 8.50	0.10	. .	22 31 29.6	— 0.2	45.7	2.1
6	1 32.5	. .	4 59 53.89	0.10	1 8.66	0.02	. .	22 44 4.9	+ 2.7	46.2	1.3
7	1 21.3	. .	5 4 1.54	0.00	1 8.72	0.00	S.	22 49 48.3	+ 2.6		
9	0 58.2	. .	5 12 17.88	0.06	1 8.76	+ 0.04	. .	23 0 8.4	— 3.0	44.8	2.4
10	0 46.3	. .	5 16 26.37	— 0.08	1 8.88	— 0.05	. .	23 4 37.1	0.8	45.4	2.7
11	0 34.3	. .	5 20 34.85	+ 0.11	1 8.87	0.01	N.	23 8 46.4	2.1		
13	— 0 9.6	I.	5 28 52.74	+ 0.07							
15	+ 0 15.6	. .	5 37 11.30	— 0.12	1 8.96	— 0.01	N.	23 21 4.7	1.0		
16	0 28.3	. .	5 41 20.52	0.00	1 8.94	+ 0.02	. .	23 23 7.6:	0.2	41.9:	(4.8)
17	0 41.1	. .	5 45 29.96	— 0.04	1 8.99	— 0.02	. .	23 24 49.1	2.8	44.9	1.7
18	0 54.0	. .	. . . .	. .	1 8.96	+ 0.02	. .	23 26 2.4	— 1.6	44.5	2.1
20	1 19.8	. .	. . . .	. .	1 8.92	0.06	. .	23 27 12.4	+ 2.1	44.4	2.1
21	1 32.7	. .	6 2 7.72	+ 0.08	1 8.94	0.04	. .	23 27 13.2	+ 1.1	44.5	1.9
22	1 45.5	. .	6 6 17.29	— 0.05	1 8.92	+ 0.05	. .	23 26 49.2	0.0	45.6	0.7
23	1 58.3	. .	. . . .	. .	. . .	. .	. .	23 26 0.3	— 0.9	46.0	0.3
24	2 11.1	. .	6 14 35.93	+ 0.02	1 8.96	— 0.01	. .	23 24 48.1	— 3.3	45.1	1.2
25	2 23.7	. .	6 18 45.20	— 0.01	1 8.87	+ 0.06	. .	23 23 4.1	+ 1.3	45.2	1.0
27	2 48.6	. .	. . . .	. .	1 8.80	+ 0.08	. .	23 18 29.7	+ 2.7	44.1	2.1
28	3 0.8	. .	6 31 12.00	+ 0.12	1 8.86	— 0.01	. .	23 15 40.3	— 1.2	45.6	0.5
29	3 12.9	. .	6 35 20.80	— 0.04	1 8.89	— 0.03	. .	23 12 29.9	+ 0.4	45.3	0.8
July 1	3 36.4	. .	6 43 37.45	0.03	1 8.74	+ 0.01					
2	3 47.7	. .	6 47 45.36	0.00	1 8.60	0.11	. .	23 0 7.7	— (5.9)	42.8	+ (3.3)
4	4 9.6	. .	6 56 0.38	0.00	1 8.52	0.11					
5	4 20.0	. .	7 0 7.44	— 0.04	1 8.58	0.00	. .	22 44 6.8	1.2	47.1	— 1.0
6	4 30.1	. .	7 4 14.07	+ 0.01	1 8.50	0.03	. .	22 38 1.2	1.7	44.6	+ 1.5
8	4 49.1	. .	7 12 26.28	— 0.01	1 8.32	0.11	. .	22 24 37.9	1.4	44.1	2.1
9	4 58.0	. .	7 16 31.86	0.12	1 8.33	0.04	. .	22 17 19.3	+ 0.9	43.5	2.7
12	5 22.0	. .	. . . .	. .	. . .	. .	S.	21 53 2.3	11.9		
13	5 29.1	. .	. . . .	. .	. . .	. .	. .	21 44 26.8	0.2	46.3	0.1
14	5 35.6	. .	7 36 52.23	0.01	1 7.99	+ 0.05	. .	21 35 16.7	+ 0.8	44.1	2.3
15	5 41.7	. .	7 40 54.91	0.07	1 7.99	— 0.02					
16	5 47.2	. .	7 44 56.99	0.06	1 7.96	— 0.06	. .	21 15 53.8	— 0.9	45.2	1.4
18	5 56.6	. .	. . . .	. .	. . .	. .	. .	20 55 2.4	0.8	44.7	2.0
19	6 0.5	. .	7 57 0.07	— 0.08	1 7.68	0.00	. .	20 44 4.8	— 0.7	46.5	0.3
20	6 3.9	. .	8 0 59.85	+ 0.08	1 7.56	+ 0.04	. .	20 32 45.3	+ 0.2	45.8	1.0
21	6 6.7	. .	8 4 59.43	— 0.12	1 7.57	— 0.05	S.	20 21 6.6	— 0.4		
22	6 9.0	. .	8 8 58.17	0.05	1 7.41	+ 0.03	. .	20 9 6.9	0.6	46.1	0.9
23	6 10.7	. .	8 12 56.45	0.08	1 7.34	0.02	. .	19 56 47.1	0.8	45.3	1.8
26	6 12.3	. .	8 24 47.80	0.09	1 7.10	0.01	. .	19 17 48.5	1.6	45.6	1.8
27	6 11.8	. .	. . . .	. .	. . .	. .	. .	19 4 9.3	1.0	45.7	1.8
28	6 10.6	. .	8 32 39.11	0.05	1 6.90	0.05	. .	18 50 11.7	0.9	46.2	1.4
29	6 8.8	. .	8 36 33.86	0.01	1 6.78	0.08	. .	18 35 55.8	— 1.2	46.6	+ 1.1
30	6 6.5	. .	8 40 28.21	0.16	1 6.68	0.09	N.	18 21 19.7	+ 0.3		
Aug. 5	5 39.9	. .	9 3 40.72	0.01	1 6.23	0.00	. .	16 47 43.4	— 0.2	49.2	— 0.5
8	5 18.4	. .	. . . .	. .	. . .	. .	. .	15 57 12.5	1.0	47.4	+ 1.7
9	5 10.1	. .	. . . .	. .	. . .	. .	. .	15 39 50.6	0.7	47.7	+ 1.6
10	5 1.2	. .	9 22 44.67	0.00	1 5.80	0.01	. .	15 22 15.2	— 1.8	50.0	— 0.6
11	4 51.7	I.	9 26 31.90	0.22	. . .	. .	. .	15 4 22.0	+ 0.2	49.5	+ 0.1
12	4 41.6	. .	9 30 18.17	0.06	1 5.58	+ 0.07	. .	14 46 16.2	0.3	48.8	1.0
13	4 30.9	. .	9 34 4.10	— 0.13	1 5.61	— 0.04	. .	14 27 56.0	0.6	49.6	0.4
17	3 42.9	. .	9 49 2.00	+ 0.01	1 5.24	+ 0.02	. .	13 12 22.3	+ 0.6	50.3	0.4
23	2 16.0	. .	. . . .	. .	. . .	. .	. .	11 12 50.8	— 0.7	51.2	0.7
24	2 0.1	. .	10 14 54.85	0.00	1 4.69	0.11	. .	10 52 15.9	0.7	50.6	1.5
25	1 43.7	. .	. . . .	. .	. . .	. .	. .	10 31 29.8	0.0	50.6	1.7
26	1 27.0	. .	10 22 14.90	— 0.15	1 4.55	0.13	. .	10 10 35.0	0.7	50.6	2.0
27	1 9.9	I.	. . . .	. .	. . .	. .	N.	9 49 29.7	0.7		
29	0 34.6	.	10 33 11.99	0.12	1 4.51	+ 0.01	. .	9 6 50.4	— 0.2	53.2	0.0
30	+ 0 16.4	II.	10 36 50.44	— 0.18	. . .	. .	. .	+ 8 45 16.9	+ 0.7	15 52.8	+ 0.6

SUN.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	m. s.		h. m. s.	s.	m. s.	s.		° ′ ″	″	′ ″	
Sept. 1	— 0 20.7	II.	10 44 6.28	— 0.19	- - -	- -	- -	+ 8 1 47.1	+ 0.3	15 52.9	+ 1.0
2	0 39.7	- -	- - - -	- -	1 4.25	+ 0.09	- -	+ 7 39 50.4	0.1	51.4	2.7
27	9 15.5	I.	- - - -	- -	- - -	- -	- -	— 1 54 51.3	0.1	15 59.0	1.6
Oct. 8	12 36.2	- -	- - - -	- -	- - -	- -	- -	6 10 3.5	2.3	16 3.6	0.1
13	13 51.8	- -	- - - -	- -	- - -	- -	- -	8 3 13.1	0.9	4.7	0.4
15	14 18.5	- -	- - - -	- -	- - -	- -	N.	8 47 44.3	+ 0.3		
17	14 42.9	- -	- - - -	- -	- - -	- -	- -	9 31 45.0	— 0.9	5.0	1.2
18	14 54.2	- -	- - - -	- -	- - -	- -	- -	9 53 35.1	+ 0.4	4.8	1.7
19	15 4.8	- -	- - - -	- -	- - -	- -	- -	10 15 16.1	1.3	4.4	2.3
21	15 24.2	- -	- - - -	- -	- - -	- -	- -	10 58 9.5	1.5	6.5	0.7
22	15 32.8	- -	- - - -	- -	- - -	- -	- -	11 19 21.5	+ 1.4	6.2	1.3
24	15 47.9	- -	- - - -	- -	- - -	- -	- -	12 1 11.7	— 1.7	7.4	0.6
25	15 54.4	I.	14 1 23.51	+ 0.15	- - -	- -	- -	12 21 55.0	+ 1.2	6.6	1.8
26	16 0.1	- -	- - - -	- -	- - -	- -	- -	12 42 23.2	0.5	6.5	2.0
29	16 12.8	- -	14 16 51.43	0.06	1 6.62	+ 0.07	- -	13 42 37.7	+ 0.6	8.2	+ 1.1
Nov. 10	15 51.6	- -	15 4 31.27	0.07	1 8.12	— 0.01					
11	15 44.5	- -	- - - -	- -	- - -	- -	- -	17 38 37.9	— 0.6	12.8	— 0.3
14	15 18.2	- -	- - - -	- -	- - -	- -	- -	18 26 19.9	+ 1.9	12.4	+ 0.7
16	14 56.4	- -	- - - -	- -	- - -	- -	- -	18 56 27.1	— 0.4	12.9	0.6
19	14 17.4	- -	- - - -	- -	- - -	- -	- -	19 39 5.5	— 3.3	11.4	+ 2.7
23	13 13.8	- -	- - - -	- -	- - -	- -	- -	20 31 4.9	+ 1.9	15.3	— 0.5
29	11 15.1	- -	- - - -	- -	- - -	- -	- -	21 37 23.1	— 0.4	13.8	+ 2.0
Dec. 1	10 30.0	- -	16 32 41.24	+ 0.28	- - -	- -	- -	21 56 15.6	+ 0.1	14.1	2.0
5	8 52.6	- -	- - - -	- -	- - -	- -	- -	22 28 52.4	— 0.9	14.3	+ 2.4
12	5 43.6	- -	- - - -	- -	- - -	- -	- -	23 8 58.8	+ 1.6	20.3	— 2.8
23	— 0 19.0	- -	- - - -	- -	- - -	- -	- -	23 26 9.8	0.3	18.9	— 0.7
28	+ 2 10.1	- -	18 31 50.85	— 0.09	- - -	- -	S.	23 15 9.4	1.1		
30	+ 3 8.5	- -	18 40 42.42	+ 0.01	- - -	- -	- -	— 23 7 27.5	+ 0.1	16 14.9	+ 3.5

MOON.

Date.	Mean time.	Limb.	Right ascension of Moon's limb.	C — O		Limb.	Declination of centre.	C — O	
				Peirce.	Hansen.			Peirce.	Hansen.
1864.	h. m.		h. m. s.	s.	s.		° ′ ″	″	″
January 1	17 56.9	II.	12 43 19.22	— 0.06	+ 0.12				
3	19 33.1	II.	14 27 47.43	+ 0.55	+ 0.59				
11	2 24.7	I.	21 45 47.95	— 0.34	— 0.18				
14	5 0.5	I.	0 33 55.63	— 0.08	0.16				
15	5 50.4	I.	1 27 52.26	+ 0.04	0.03	S.	+ 12 9 6.3	— 1.2	— 2.4
16	6 40.3	I.	2 21 50.37	— 0.12	0.15	S.	15 49 49.9	1.4	1.9
21	10 49.1	I.	6 51 7.40	+ 0.12	0.11				
22	11 36.0	I.	7 42 2.97	0.32	0.03	N. & S.	16 57 9.1	0.7	1.6
23	12 21.1	II.	8 33 22.58	0.32	0.08	N. & S.	13 56 15.1	0.8	1.5
24	13 4.7	II.	9 21 2.27	0.34	0.08				
25	13 47.2	II.	10 7 33.13	0.13	0.19	S.	6 19 32.7	4.3	3.8
26	14 29.1	II.	10 53 28.49	+ 0.12	0.07				
27	15 11.0	II.	11 39 29.97	— 0.04	— 0.09				
February 3	21 6.3	II.	18 3 32.81	+ 0.02	+ 0.38				
4	22 7.1	II.	19 8 27.36	+ 0.24	+ 0.26				
10	2 50.2	I.	0 9 40.68	— 0.55	— 0.20				
11	3 42.3	.	1 5 54.32	0.44	0.23				
12	4 34.0	.	2 1 40.89	0.23	0.20	S.	14 16 58.0:	— 2.4	5.2
13	5 25.5	I.	2 57 15.76	0.12	0.25	S.	17 28 24.1	+ 0.2	— 2.7
14	6 16.8	I.	3 52 38.00	— 0.06	0.30				
16	7 57.6	I.	5 41 34.65	+ 0.07	0.19	S.	20 38 59.6	2.9	+ 2.1
17	8 46.2	I.	6 34 21.33	0.03	0.17	N. & S.	19 36 49.0	+ 1.8	+ 0.8
18	9 33.4	I.	7 25 35.57	0.02	0.12	S.	17 39 59.8	— 0.3	— 1.7
19	10 18.9	I.	8 15 12.75	+ 0.11	0.00	N. & S.	14 56 14.3	— 0.4	2.3
20	11 3.0	.	9 3 21.55	— 0.08	0.14				
22	12 28.2	II.	10 38 43.09	0.09	0.09	S.	+ 3 32 28.2	+ 0.8	0.3
24	13 53.1	II.	12 11 46.03	0.10	— 0.04	S.	— 5 9 38.3	— 0.5	0.4
25	14 37.1	II.	12 59 50.22	0.08	+ 0.03				
26	15 23.0	II.	13 49 50.15	— 0.09	— 0.05				
27	16 11.4	II.	14 42 20.25	+ 0.05	+ 0.17				
March 1	18 53.3	II.	17 36 35.63	— 0.67	0.16	S.	— 20 33 38.1	— 4.2	2.3
2	19 51.3	II.	18 38 43.09	0.98	0.05				
3	20 49.7	II.	19 41 11.90	0.70	+ 0.23				
13	5 0.2	I.	4 26 11.15	— 0.10	— 0.33				
14	5 51.6	I.	5 21 41.97	+ 0.21	0.26	S.	+ 20 31 29.6	0.0	— 2.0
15	6 41.4	I.	6 15 39.18	0.35	0.23				
17	8 15.7	I.	7 58 2.02	0.24	— 0.22	N.	15 47 0.3	+ 0.1	+ 0.4
20	10 25.9	I.	10 20 32.38	+ 0.16	+ 0.06				
21	11 8.3	I.	11 6 58.44	— 0.08	— 0.06	N. & S.	+ 0 41 22.5	+ 0.9	— 0.1
23	12 35.2		. . . .	. .	. .	S.	— 7 55 42.0	— 0.5	0.6
24	13 21.0	II.	13 33 58.56	0.03	— 0.04	S.	11 53 38.6	2.3	— 1.8
27	15 52.7	II.	16 18 0.99	0.20	+ 0.21				
31	19 36.4	II.	20 18 7.67	0.77	+ 0.10				
April 10	3 41.2	I.	4 57 16.74	— 0.19	— 0.23				
13	6 10.1	I.	7 38 32.19	+ 0.51	0.11				
17	9 4.1	I.	10 48 59.78	0.42	0.20				
18	9 46.8	I.	11 35 41.96	0.42	— 0.09	N.	2 3 9.8	1.1	+ 1.7
19	10 30.4	I.	12 23 29.28	0.34	+ 0.01	N.	6 21 39.3	1.4	0.6
21	12 2.7	I.	14 5 0.42	0.35	0.22	S.	14 9 29.7	0.3	0.0
21	12 3.9	II.	14 7 12.04	0.41	0.22				
23	13 47.8	II.	15 59 15.65	+ 0.02	0.31				
27	17 31.8	II.	19 59 35.07	— 0.49	0.35				
28	18 26.0	II.	20 57 50.66	0.30	0.40				
29	19 18.9	II.	21 54 43.62	— 0.36	+ 0.20				
May 14	6 59.0	I.	10 29 59.58	+ 0.55	— 0.22				
16	8 24.0	I.	12 3 10.96	0.64	0.15	N.	4 34 56.7	1.0	+ 2.4
17	9 8.5	I.	12 51 44.36	0.68	0.08	N.	8 46 36.9	— 4.3	— 2.1
18	9 55.4	I.	. . . .	. .	. .	N.	12 40 16.0	+ 1.1	+ 2.2
19	10 45.3	I.	14 36 30.06	0.46	+ 0.09	N.	16 1 27.0	— 1.2	— 1.6
20	11 38.3	I.	15 33 30.12	0.39	0.28	N.	18 34 18.2	0.7	— 1.1
21	12 34.1	II.	16 35 40.59	+ 0.20	0.25				
22	13 31.7	II.	17 37 23.07	— 0.12	0.38				
23	14 29.8	II.	18 39 33.29	0.51	0.17				
24	15 27.0	II.	19 40 50.55	0.68	0.24				
27	18 7.6	II.	22 33 46.38	0.37	0.31				
28	18 58.4	II.	23 28 36.97	0.24	0.28				
29	19 48.9	II.	0 23 12.69	0.29	0.09				
30	20 39.8	II.	1 18 14.87	— 0.30	+ 0.06				
June 7	2 42.2	I.	7 46 50.37	+ 0.42	— 0.12				
9	4 11.8	I.	9 24 46.48	0.59	0.00				
10	4 54.3	I.	10 11 21.97	0.53	— 0.06				
13	7 1.3	I.	12 30 35.80	0.66	0.00	N.	— 6 54 24.1	— 1.8	0.0
14	7 46.3	I.	13 19 42.87	+ 0.89	+ 0.16				

MOON.

Date.	Mean time.	Limb.	Right ascension of Moon's limb.	C — O Peirce.	C — O Hansen.	Limb.	Declination of centre.	C — O Peirce.	C — O Hansen.
1864.	h. m.		h. m. s.	s.	s.		° ′ ″	″	″
June 15	8 34.1	I.	14 11 34.91	+ 0.73	+ 0.07	N.	— 14 30 59.7	— 0.6	— 0.7
16	9 25.3	I.	15 6 46.39	0.65	0.20	N.	17 28 10.9	+ 2.9	+ 1.5
17	10 20.0	I.	16 5 25.50	0.32	0.13	N.	19 29 46.7	2.3	— 0.6
18	11 17.6	I.	17 7 0.72	+ 0.01	0.02	N. & S.	20 19 51.0	+ 0.2	— 0.6
20	13 16.3	II.	19 16 8.96	— 0.25	0.06	N.	17 50 8.8	— 0.7	+ 0.6
21	14 14.3	II.	20 18 15.51	0.26	0.16				
22	15 10.1	II.	21 18 15.31	0.31	0.27				
23	16 3.8	II.	22 16 3.18	0.31	0.38				
24	16 55.8	II.	23 12 6.21	0.57	0.24				
25	17 46.7	II.	0 7 7.06	0.44	0.29				
26	18 37.3	II.	1 1 51.39	0.30	0.24				
27	19 28.3	II.	1 56 56.20	0.28	0.19				
28	20 20.0	II.	2 52 41.35	0.31	+ 0.13				
29	21 12.4	II.	3 49 4.34:	— 0.45	— 0.03				
July 9	4 14.6	I.	11 25 46.57	+ 0.55	+ 0.01				
10	4 56.7	I.	12 11 55.95	0.34	— 0.10				
13	7 14.1	I.	14 41 26.59	0.70	+ 0.12	N.	16 3 41.9	+ 0.8	0.7
14	8 5.9	I.	15 37 19.58	0.79	0.14	N.	18 31 45.5	1.7	0.2
15	9 1.2	I.	16 36 39.74	0.60	0.22	N.	19 58 54.5	3.1	0.4
16	9 59.3	I.	17 38 50.68	0.23	0.12	N. & S.	20 10 30.1	2.4	0.0
17	10 58.9	I.	18 42 37.50	+ 0.05	0.19				
18	11 58.7	I.	19 46 28.41	— 0.29	0.05	N.	16 20 23.1	1.5	0.9
18	. . .	II.	48 52.60						
20	13 53.7	II.	21 52 4.93	0.23	0.25				
21	14 48.3	II.	22 50 45.60	0.49	+ 0.04				
22	15 41.4	II.	23 47 54.15	0.62	— 0.05				
23	16 33.5	II.	0 44 8.05	0.67	— 0.02				
25	18 17.3	II.	2 36 3.83	0.49	+ 0.16				
26	19 9.4	II.	3 32 17.03	0.46	0.04				
27	20 1.6	II.	4 28 29.43	— 0.17	0.17				
August 10	5 56.3	I.	15 13 49.19	+ 0.59	0.08				
11	6 48.4	I.	16 9 59.26	0.60	0.04				
12	7 43.5	I.	17 9 11.42	0.63	0.08				
15	10 38.8	I.	20 16 45.03	+ 0.14	0.13	N.	14 36 0.9	3.3	+ 1.6
17	12 33.5	II.	22 22 5.29	— 0.16	0.22				
23	17 57.6	II.	4 10 38.28	0.43	0.03				
24	18 49.9	II.	5 7 2.27	— 0.27	0.07				
25	19 41.0	II.	6 2 9.52	+ 0.01	0.18				
27	21 17.8	II.	7 47 7.68	+ 0.05					
Novem'r 5	5 2.2	I.	20 2 41.90	0.00	0.17	S.	— 15 4 32.4	+ 0.9	0.0
6	5 55.5	.	21 0 2.50	0.00	0.12				
10	9 25.7	.	0 46 39.03	— 0.04	0.07	S.	+ 7 35 55.2	— 3.2	— 3.3
12	11 16.0	I.	2 44 59.77	— 0.17	0.05	S.	15 36 49.3	— 2.3	2.3
15	14 4.2	II.	5 47 51.83	+ 0.22	0.14				
22	19 27.2	II.	11 39 11.30	0.65	0.26				
24	20 53.5	II.	13 13 33.30	0.77	0.30				
Decem'r 6	6 28.0	I.	23 30 53.93	+ 0.03	0.12	S.	0 58 13.0	+ 2.9	0.2
7	7 19.3	I.	0 26 17.26	— 0.04	0.02				
8	8 11.5	I.	1 22 31.17	+ 0.01	0.14	S.	10 18 56.7	— 0.9	— 1.8
12	11 50.6	.	. . .	. .	. .	S.	+ 19 41 0.7	0.0	+ 2.4
22	19 31.1	II.	13 41 18.99	+ 0.90	+ 0.46				

SIDERIAL TIME OF SEMI-DIAMETER PASSING THE MERIDIAN AND VERTICAL SEMI-DIAMETER OF THE MOON.

Date.	Sid. time of semi-diam. passing mer.	C — O	Vertical semi-diameter.	C — O
1864.	m. s.	s.	′ ″	″
January 22	. . .	. .	14 46.2	— 0.6
23	. . .	. .	14 44.0	0.0
February 17	. . .	. .	14 52.0	— 1.2
19	. . .	. .	14 44.3	0.0
March 21	. . .	. .	14 52.8	0.0
April 21	1 5.81	+ 0.03		
June 18	. . .	. .	15 51.6	
July 16	. . .	. .	16 11.6	+ 0.7
18	1 12.09	0.00		

MERCURY.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
January 8	1 27.6	.	. . . .	. .	. .	. .	.	— 19 24 3.4	— 0.6		
9	1 27.6	I.	20 41 51.94	— 0.12							
11	1 26.3	I.	20 48 24.31	0.22	. .	. .	.	18 2 12.3	0.6		
February 4	22 47.5	.	. . . .	. .	. .	. .	.	18 25 31.2	1.0		
9	22 33.4	II.	19 53 21.76	0.26	. .	. .	.	19 9 57.2	2.3		
10	22 31.9	II.	19 55 42.31	0.27							
22	22 32.2	II.	20 43 20.25	0.17							
23	22 33.3	.	. . . .	.	. .	. .	.	18 35 41.6	0.4		
26	22 37.2	II.	21 4 8.03	0.15							
March 1	22 43.5	II.	21 26 17.06	0.16							
2	22 45.3	II.	21 31 59.42	0.16	. .	. .	.	16 21 56.8	0.4		
6	22 52.9	II.	21 55 22.18	0.22	. .	. .	.	14 43 46.3	0.8		
8	22 57.0	.	. . . .	. .	. .	. .	.	13 46 57.6	1.3		
11	23 3.5	.	22 26 39.93	0.16	. .	. .	.	12 13 13.9	0.1		
17	23 17.5	.	23 3 27.35	0.17							
23	23 33.3	II.	23 42 57.54	0.10	0.22	— 0.05	.	— 4 2 33.9	1.8		
April 12	0 37.3	.	. . . .	. .	. .	. .	.	+ 13 3 38.8	— 1.6		
18	0 57.8	I.	2 46 21.92	— 0.03							
19	1 0.9	I.	2 53 18.48	+ 0.10							
21	1 6.4	.	. . . .	. .	. .	. .	.	19 41 3.4	+ 0.5		
23	1 11.0	.	3 19 7.19	0.04							
25	1 14.6	.	. . . .	. .	. .	. .	.	21 36 10.6	2.5		
27	1 17.1	.	3 41 2.98	0.10	. .	. .	.	22 18 29.6	+ 0.7		
28	1 17.9	.	3 45 49.78	0.15							
29	1 18.5	.	3 50 18.64	0.05							
May 4	1 16.3	I.	4 7 52.51	0.17	. .	. .	.	23 30 26.6	— 0.4		
5	1 14.9	.	. . . .	. .	. .	. .	.	23 31 36.6	+ 0.3		
6	1 13.1	I.	4 12 31.02	0.24	. .	. .	.	23 30 36.9:	+ 2.1		
7	1 11.0	I.	4 14 18.74	0.05							
June 5	22 45.9	II.	3 47 7.49	0.01							
9	22 34.8	II.	3 51 47.70	0.10							
12	22 29.5	II.	3 58 17.59	+ 0.11	. .	. .	.	16 31 42.5:	0.0		
14	22 27.4	II.	4 4 1.88	— 0.04				16 59 42.2:	— 1.8		
15	22 26.7	II.	4 7 18.79	+ 0.06							
16	22 26.3	.	. . . .	. .	. .	. .	.	17 32 46.2:	0.7		
20	22 27.5	.	. . . .	. .	. .	. .		18 50 27.6:	3.7		
21	22 28.5	.	4 32 47.23	— 0.56							
24	22 33.1	II.	4 49 12.92	+ 0.01	. .	. .	.	20 16 12.3:	0.0		
27	22 40.2	II.	5 8 8.32	+ 0.08	. .	. .	.	21 20 8.8:	— 1.3		
28	22 43.1	II.	5 15 0.02	— 0.08	. .	. .	.	21 40 25.7:	+ 0.6		
30	22 49.7	II.	5 29 31.74	0.00	. .	. .	.	22 18 27.0:	— 0.5		
July 3	23 1.6	II.	5 53 15.44	+ 0.02							
4	23 6.0	.	6 1 38.38	+ 0.05	. .	. .	.	23 18 21.7	3.8		
6	23 15.5	II.	6 19 1.12	— 0.01	. .	. .	.	23 36 56.7	0.2		
7	23 20.5	II.	6 27 58.13	+ 0.12	. .	. .	.	23 42 49.0	1.0		
8	23 25.6	II.	6 37 3.92	— 0.02	. .	. .	.	23 46 10.9	1.6		
29	0 59.9	.	. . . .	. .	. .	. .	.	16 27 16.3	2.1		
30	1 3.1	.	. . . .	. .	. .	. .	.	15 48 21.0	1.0		
August 2	1 11.8	.	. . . .	. .	. .	. .	.	13 47 52.2	1.3		
5	1 19.2	I.	10 17 23.91	0.03	. .	. .	.	11 43 35.4	1.3		
10	1 28.7	I.	10 46 39.30	0.11	. .	. .	.	8 13 25.6	1.9		
11	1 30.2	.	10 52 7.48	0.19							
12	1 31.6	I.	10 57 28.16	0.07	. .	. .	.	+ 6 49 43.3	1.4		
13	1 32.9	.	11 2 41.75	0.04							
29	1 36.8	.	11 9 44.22	— 0.09							
30	1 35.9	.	12 12 43.62	+ 0.07							
September 1	1 33.5	.	12 18 9.36	0.07	. .	. .	.	— 5 8 42.3	— 0.8		
October 12	22 45.9	.	. . . .	. .	. .	. .	.	+ 0 25 41.8	+ 0.9		
13	22 47.1	.	. . . .	. .	. .	. .	.	— 0 5 29.9	0.4		
24	23 8.5	.	13 25 39.28	+ 0.04	0.13	+ 0.04	.	7 17 37.8	1.1		
28	23 17.4	.	13 50 21.98	— 0.03	. .	. .	.	10 3 51.1	1.0		
December 12	1 9.7	.	. . . .	. .	. .	. .	.	25 28 13.7	+ 0.4		
22	1 26.1	.	. . . .	. .	. .	. .	.	23 13 57.2	— 0.4		
23	1 26.2	.	. . . .	. .	. .	. .	.	21 54 49.1	— 1.4		
28	. . .	.	. . . .	. .	. .	. .	.	— 21 16 54.2	0.0		

VENUS.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
January 8	20 57.5	II.	16 11 6.29	— 0.30							
10	20 59.2	II.	16 20 38.84	0.13	. .	. .	.	— 18 50 35.7	+ 1.8	9.9	— 0.6
11	21 0.1	II.	16 25 27.38	0.30	. .	. .	.	19 3 49.9	0.3	9.5	— 0.3
13	21 1.8	II.	16 35 7.80	0.14							
15	21 3.7	II.	16 44 53.35	0.08	. .	. .	.	19 52 33.3	1.1		
19	21 7.7	.	. . . .	. .	. .	. .	.	20 33 46.1	1.4		
22	21 10.9	II.	17 19 38.69	0.03	. .	. .	.	20 59 22.0	2.5	7.9	+ 0.6
24	21 13.1	.	. . . .	. .	. .	. .	.	21 13 44.6	3.5		
25	21 14.2	II.	17 34 47.52	0.11	. .	. .	.	21 20 4.7	2.6	8.6	— 0.3
26	21 15.3	II.	17 39 52.23	0.22							
27	21 16.4	II.	17 44 57.42	0.02	. .	. .	.	21 31 3.5	1.8	7.8	+ 0.4
28	21 17.5	II.	17 50 3.56	0.04	. .	. .	.	21 35 41.2	1.8		
February 4	21 25.9	II.	18 26 2.44	0.13							
7	21 29.6	II.	18 41 32.83	0.01	. .	.	.	21 48 52.6	1.5		
8	21 30.7	II.	46 43.29	0.03							
9	21 32.0	II.	51 53.99	0.22	. .	. .	.	21 44 7.1	2.0		
10	21 33.3	II.	57 4.37	0.06	. .	. .	.	21 40 48.8	2.6	7.4	+ 0.1
11	21 34.5	II.	19 2 14.86	0.09	. .	. .	.	21 36 51.6	1.9		
18	21 43.0	.	. . . .	.	. .	. .	.	20 51 52.3:	2.0		
19	21 44.2	II.	43 30.25	0.05	. .	. .	.	20 42 58.5	1.1		
22	21 47.7	II.	58 51.94	0.13	. .	. .	.	20 12 44.0	1.0		
23	21 48.9	II.	20 3 58.14	0.25	. .	. .	.	20 2 29.9	2.7		
25	21 51.2	II.	14 8.40	0.27	. .	. .	.	19 37 11.1	0.1		
26	21 52.3	II.	19 12.37	0.12	. .	. .	.	19 24 15.5	4.0		
March 1	21 56.7	II.	39 21.23	0.04	. .	. .	.	18 26 44.2	3.1		
2	21 57.7	II.	44 21.54	0.13	. .	. .	.	18 11 2.6:	4.9		
3	21 58.8	II.	49 21.12	0.32							
6	22 0.9	II.	21 4 13.76	0.12	. .	. .	.	17 2 59.5:	2.3		
8	22 2.9	II.	14 4.47	0.16	. .	. .	.	16 26 3.2	2.8		
11	22 6.7	II.	28 43.29	0.29	. .	. .	.	15 27 10.7	2.4		
13	22 8.5	II.	38 24.46	0.05	. .	. .	.	14 45 46.0	3.3		
15	22 10.2	.	. . . .	. .	. .	. .	.	14 2 41.1	2.9		
17	22 11.8	II.	57 35.72	— 0.19	. .	.	.	13 18 1.9	1.7		
18	22 12.6	II.	22 2 20.96	+ 0.07	. .	. .	.	12 55 10.5	3.0		
23	22 16.5	II.	25 55.56	— 0.03	. .	. .	.	10 55 36.9	1.9		
27	22 19.3	II.	44 32.88	— 0.10							
April 6	22 25.7	II.	23 30 20.77	+ 0.08							
7	22 26.3	.	. . . .	. .	. .	. .	.	4 17 13.6	0.6		
11	22 28.6	.	23 52 57.46	+ 0.06	0.40	— 0.03	.	— 2 24 26.0	+ 0.2		
18	22 32.4	II.	0 24 27.83	— 0.01							
21	22 34.2	.	0 37 57.72	0.03	0.36	+ 0.01	.	+ 2 21 54.9	— 1.2		
22	22 34.7	.	0 42 27.97	0.09	0.33	+ 0.04					
26	22 37.0	.	1 0 31.10	0.18	0.40	— 0.03					
27	22 37.6	II.	1 5 2.66	— 0.15	. .	. .	.	5 13 3.2	+ 2.1		
28	22 38.1	.	1 9 34.36	+ 0.12	0.41	0.05					
May 3	22 41.2	.	1 32 21.22	+ 0.07	0.41	0.05					
4	22 41.8	.	1 36 56.31	— 0.02	0.39	0.03	.	8 28 14.7	— 0.9		
5	22 42.5	.	1 41 31.91	+ 0.02	0.38	0.02	.	8 55 28.8	+ 0.5		
6	22 43.2	.	. . . .	. .	. .	. .	.	9 22 33.3	— 0.1		
20	22 53.9	.	. . . .	. .	. .	. .	.	15 14 47.0	2.3		
22	22 55.7	.	3 1 42.22	0.10	0.38	0.02					
23	22 56.6	.	3 6 33.87	0.23	0.41	0.05	.	16 21 54.8:	0.8		
24	22 57.5	.	3 11 26.84	0.16	0.41	— 0.05					
27	23 0.4	.	3 26 12.39	0.00	0.35	+ 0.01	.	17 45 43.9:	1.3		
29	23 2.4	.	. . . .	. .	. .	. .	.	18 24 59.2:	2.5		
30	23 3.5	.	. . . .	. .	. .	. .	.	18 43 53.0:	— 2.0		
31	23 4.5	II.	3 46 8.74	0.00							
June 5	23 10.2	.	4 11 29.43	0.06	0.42	— 0.06					
6	23 11.4	.	4 16 36.81	+ 0.09	0.43	— 0.07	.	20 41 55.4:	+ 0.5		
8	23 13.9	.	4 26 54.84	— 0.05	0.35	+ 0.01					
9	23 15.1	.	4 32 4.95	+ 0.26	0.39	— 0.03					
12	23 18.8	.	. . . .	. .	. .	. .	.	22 1 21.2:	— 1.8		
14	23 21.4	.	4 58 11.11	0.06	0.44	0.08	.	22 22 59.7:	3.6		
15	23 22.7	.	5 3 26.84	0.09	0.41	0.05	.	22 32 48.3:	0.9		
16	23 24.1	.	5 8 43.40	0.05	0.40	— 0.04	.	22 42 2.3:	2.0		
17	23 25.4	.	. . . .	. .	. .	. .	.	22 50 35.7:	1.4		
20	23 29.5	.	5 29 56.29	+ 0.06	0.36	0.00	.	23 12 22.6:	4.5		
21	23 30.9	.	. . . .	. .	. .	. .	.	23 18 15.4:	3.3		
25	23 36.4	.	. . . .	. .	. .	. .	.	23 39 16.9:	5.1		
30	23 43.5	.	. . . .	. .	. .	. .	.	+ 23 40 19.6:	— 3.9		

VENUS.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
August 5	0 27.4	I.	9 25 31.25	— 0.21							
10	0 32.1	I.	9 49 52.72	0.13							
11	0 33.0	.	9 54 41.96	0.39	0.35	— 0.01					
12	0 33.9	.	9 59 29.72	0.23	0.33	+ 0.01	.	+ 13 47 8.8	— 1.6		
13	0 34.7	.	10 4 16.64	0.25	0.38	— 0.04	.	13 21 49.2	— 0.4		
23	0 42.1	.	. . . .	. .	. .	. .	.	8 50 52.1:	+ 0.2		
24	0 42.8	.	. . . .	. .	. .	. .	.	8 22 15.7:	— 0.4		
26	0 44.1	I.	11 5 2.57	0.18							
30	0 46.6	.	11 23 19.83	0.21	. .	. .	.	5 26 13.4	— 0.2		
September 1	0 47.8	.	11 32 25.35	— 0.08	0.38	— 0.04	.	+ 4 26 10.8	+ 0.3		
October 25	1 27.8	I.	15 45 30.31	+ 0.01	. .	. .	.	— 20 27 37.1	3.6		
29	1 32.6	I.	16 6 4.64	0.03							
November 10	1 48.7	I.	17 9 29.53	0.13	. .	. .	.	24 13 3.9	2.5		
14	1 54.5	.	. . . .	. .	. .	. .	.	24 42 20.5	2.0		
23	2 7.9	.	. . . .	. .	. .	. .	.	25 4 57.4	4.6		
25	2 10.8	.	. . . .	. .	. .	. .	.	25 1 38.3	1.4		
December 6	2 26.4	I.	19 29 43.46	0.00	. .	. .	.	23 50 36.2	0.3		
12	2 34.0	.	. . . .	. .	. .	. .	.	22 35 50.0	3.6		
22	2 45.1	.	. . . .	. .	. .	. .	.	19 40 44.2	+ 0.5		
30	2 52.2	I.	21 30 13.38	+ 0.10	. .	. .	.	— 16 41 58.7	— 0.1		

MARS.

November 15	13 11.4	.	4 53 40.29	— 0.72	0.70	— 0.02					
29	11 54.1	.	31 17.82	0.88	0.70	0.01	.	+ 23 43 48.1	+ 1.0	8.9	+ 0.5
30	11 48.5	.	. . . .	. .	. .	. .	.	23 42 50.0	— 1.8		
December 3	11 31.7	.	. . . .	. .	. .	. .	.	23 39 9.4	0.6	9.2	+ 0.1
6	11 15.1	.	. . . .	. .	. .	. .	.	23 34 44.2	0.2		
12	10 43.0	.	. . . .	. .	. .	. .	.	23 24 37.8	0.5		
14	10 32.5.	.	. . . .	. .	. .	. .	.	23 21 10.8	1.4		
20	10 2.6	.	4 2 22.09	0.83	0.55	0.06	.	23 11 30.9	0.8	9.4	— 1.0
22	9 53.0	.	0 40.83	0.75	0.59	— 0.01	.	23 8 46.4	1.6	8.4	— 0.1
23	9 48.3	.	. . . .	. .	. .	. .	.	23 7 29.8	0.7		
24	9 43.7	.	. . . .	. .	. .	. .	.	23 6 19.2	0.5	7.9	+ 0.2
29	9 21.5	.	3 56 36.99	— 0.79	. .	. .	.	+ 23 1 56.8	— 0.7		

JUPITER.

May 4	12 33.3	.	. . . .	. .	. .	. .	.	— 17 34 57.0	— 3.9	+ 21.8	+ 0.1
5	12 28.9	.	15 26 11.54	— 0.99	. .	. .	.	17 33 10.5	2.5	21.2	0.7
6	12 24.5	.	15 25 40.92	0.90	1.66	— 0.07					
7	12 20.0	.	15 25 10.44	1.07	1.58	0.01					
16	11 40.0	.	15 20 32.20	0.93	1.58	0.01	.	17 13 3.1	1.6	21.8	0.2
17	11 35.5	.	15 20 1.68	1.15	1.58	0.01	.	17 11 13.2	1.6	21.4	0.6
19	11 26.6	.	15 19 0.38	1.01	1.61	0.02	.	17 7 32.5	3.7	21.1	0.8
20	11 22.2	.	15 18 29.87	0.87	1.61	0.03	.	17 5 46.0	— 1.6	21.2	0.8
21	11 17.8	.	15 17 59.87	1.08	1.58	0.00	.	17 4 1.6	+ 2.0	20.	
27	10 51.2	.	. . . .	. .	. .	. .	.	16 53 26.9	— 1.6	21.8	0.0
30	10 38.0	.	15 13 38.37	0.86	1.62	0.05	.	16 48 26.4:	0.7	21.2	0.6
31	10 33.7	.	15 13 10.85	0.85	1.63	0.06	.	16 46 48.6:	0.7	20.4	1.4
June 1	10 29.3	.	. . . .	. .	. .	. .	.	16 45 8.8:	4.2	21.4	0.3
3	10 20.5	.	11 50.60	0.82	1.58	— 0.02	.	16 42 3.4:	1.5	21.0	+ 0.7
7	10 3.1	.	10 9.85	0.98	1.43	+ 0.13					
13	9 37.3	.	15 7 53.37	0.89	1.57	— 0.03	.	16 28 12.5:	3.3	21.4	— 0.1
14	9 33.0	.	15 7 32.40	0.74	1.65	0.11					
15	9 28.7	.	15 7 12.25	0.83	1.60	0.06	.	16 25 53.6:	2.2	20.5	+ 0.8
17	9 20.2	I.	15 6 33.78	1.07	. .	. .	.	16 23 42.9:	2.6	20.7	0.5
18	9 16.0	.	15 6 15.21	0.96	1.56	0.03	.	16 22 41.2:	— 2.9	20.0	1.1
20	9 7.5	.	15 5 40.15	0.96	1.55	0.03	.	16 20 49.2:	+ 0.4	20.2	0.9
21	9 3.3	.	. . . .	. .	. .	. .	.	16 19 51.6:	— 3.5	19.9	1.1
22	8 59.1	.	15 5 7.53	0.88	1.56	0.05	.	16 19 2.8:	1.3	20.7	0.3
25	8 46.6	.	15 4 23.62	0.91	1.54	0.04	.	— 16 16 44.7:	— 2.7	+ 20.2	+ 0.6
29	8 30.0	.	15 3 45.68	— 0.88	1.52	— 0.03					

SATURN.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination af centre.	C — O	Vertical semi-diameter.	C — O
1864.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
March 12	13 39.9	.	13 4 30.44	+ 0.60	0.58	+ 0.01	.				
23	12 53.8	I.	13 1 38.21	0.55	. .	. .	.	— 3 36 12.7	— 22.2	8.2	+ 0.8
24	12 49.6	.	13 1 21.62	0.65	0.60	— 0.01	.	3 34 24.1	22.9	7.8	1.4
April 6	11 54.8	.	12 57 41.53	0.59	0.59	0.00	.	3 10 56.9	21.3		
21	10 51.7	.	12 53 32.71	0.58	0.63	0.03	.	2 45 34.5	22.2		
23	10 43.3	.	12 53 1,51	0.53	0.61	0.01	.	2 42 29.9	21.5	8.2	0.8
26	10 30.7	.	12 52 15.91	0.50	0.59	0.00					
28	10 22.4	.	12 51 46.43	0.47	0.62	0.03	.	2 35 9.7	22.5	8.6	0.3
29	10 18.2	.	12 51 31.85	0.59	0.69	— 0.10	.	2 33 47.6	21.3		
May 4	9 57.4	.	12 50 22.94	0.49	0.58	+ 0.01	.	2 27 15.3	21.8	8.6	0.3
5	9 53.2	.	12 51 9.74	0.52	0.59	0.00	.	2 26 2.1	21.8	7.9	1.0
6	9 49.1	.	12 49 56.86	0.61	0.64	— 0.06	.	2 24 53.1	19.7		
7	9 44.9	.	12 49 44.38	0.50	0.60	0.02	.	2 23 42.4	21.0		
16	9 7.9	.	12 48 3.42	0.53	0.64	— 0.06	.	2 14 48.1	20.2	8.4	0.4
17	9 3.8	.	12 47 53.87	0.35	0.56	+ 0.02					
19	8 55.6	.	. . . .	. .	. .	. .	.	2 12 26.3	21.5	8.4	0.4
20	8 51.5	.	. . . .	. .	. .	. .	.	2 11 45.8	19.5	8.1	0.6
21	8 47.4	.	12 47 18.01	0.39	0.56	0.02					
30	8 11.0	.	12 46 11.59	+ 0.40	0.56	+ 0.01					
31	8 7.0	.	. . . .	. .	. .	. .	.	2 6 27.6:	20.1	8.2	+ 0.4
June 13	7 15.4	.	. . . .	. .	. .	. .	.	— 2 6 20.7:	— 19.4		

URANUS.

January 2	10 38.1	.	5 26 15.46	— 2.51	. .	. .	.	+ 23 22 10.3	+ 3.4		
5	10 25.8	.	. . . .	. .	. .	. .	.	23 21 46.6	3.2		
6	10 21.7	.	5 25 35.09	2.29							
9	10 9.4	.	5 25 5.93	2.21	0.20	— 0.08	.	23 21 16.1	2.9		
11	10 1.2	.	. . . .	. .	. .	. .	.	23 21 0.0	3.8		
12	9 57.2	.	5 24 37.86	2.23	. .	. .	.	23 20 53.9	2.5		
16	9 40.8	.	5 24 2.26	2.17	0.21	0.09	.	23 20 25.8	1.7		
22	9 16.4	.	5 23 13.81	2.51	. .	. .	.	23 19 43.5	3.4		
25	9 4.3	.	5 22 51.51	2.29							
26	9 0.2	.	5 22 44.67	2.45	. .	. .	.	23 19 20.6	1.7		
27	8 56.2	.	5 22 37.82	2.42	0.17	0.05	.	23 19 13.7	2.9		
28	8 52.1	.	5 22 31.16	2.39	0.16	0.04	.	23 19 8.1	2.9		
29	8 48.1	.	5 22 24.74	2.42	0.17	— 0.05	.	23 19 4.2	1.3		
February 3	8 27.9	.	5 21 55.44	2.45	. .	. .	.	23 18 37.2	2.8		
4	8 23.9	.	5 21 50.18	2.45	. .	. .	.	23 18 32.0	3.4		
8	8 7.9	.	. . . .	. .	. .	. .	.	23 18 16.4	2.4		
10	7 59.9	.	. . . .	. .	. .	. .	.	23 18 8.8	2.8		
11	7 55.9	.	. . . .	. .	. .	. .	.	23 18 4.9	3.4		
12	7 51.9	.	5 21 15.64	2.36	. .	. .	.	23 18 3.3	2.0		
13	7 47.9	.	. . . .	. .	. .	. .	.	23 17 59.1	3.3		
16	7 43.9	.	. . . .	. .	. .	. .	.	23 17 51.6	3.3		
19	7 24.0	.	. . . .	. .	. .	. .	.	23 17 46.5	2.8		
26	6 56.4	.	5 20 49.57	2.27	0.17	. .	.	23 18 54.0:			
March 7	6 17.4	.	. . . .	. .	. .	. .	.	23 17 49.8	3.2		
November 29	13 14.7	.	5 52 16.35	2.86	. .	. .	.	23 38 16.2	8.0		
30	13 10.6	.	. . . .	. .	. .	. .	.	23 38 17.7	5.3		
December 12	12 21.2	.	. . . .	. .	. .	. .	.	23 37 57.4	6.1		
22	11 40.1	.	5 48 3.90	— 2.77	. .	. .	.	+ 23 37 34.1	+ 5.6		

NEPTUNE.

July 28	16 3.7	.	. . . .	. .	. .	. .	.	+ 1 53 40.9	+ 17.0		
29	15 59.8	.	. . . .	. .	. .	. .	.	1 53 24.3	16.9		
August 1	15 47.8	.	0 32 35.25	+ 2.73	. .	. .	.	1 52 31.2	15.7		
9	15 15.9	.	0 32 12.32	2.58	. .	. .	.	+ 1 49 38.4	+ 14.9		
12	15 4.0	.	0 32 1.81	+ 2.77							

NEPTUNE.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
October 25	10 6.3	.	0 25 18.61	+ 2.52	. .	. .	.	+ 1 3 50.1	+ 14.8		
28	10 2.2	.	. . . .	. .	. .	. .	.	1 2 10.9:	16.4		
29	9 50.2	.	0 24 57.47	2.93	. .	. .	.	1 1 40.0	15.7		
November 4	9 26.1	.	. . . .	. .	. .	. .	.	0 58 40.7	16.3		
5	9 22.1	.	0 24 24.08	2.59	. .	. .	.	0 58 13.5	15.6		
10	9 2.1	.	0 24 2.36	2.63	. .	. .	.	0 56 3.5	15.0		
12	8 54.1	.	0 23 54.29	2.59	. .	. .	.	0 55 16.0	14.6		
14	8 46.2	.	. . . .	. .	. .	. .	.	0 54 32.3	13.1		
24	8 6.4	.	0 23 14.34	2.57	. .	. .	.	0 51 25.5	14.8		
25	8 2.4	.	0 23 11.79	2.48	. .	. .	.	0 51 10.5	15.1		
29	7 46 5	.	0 23 2.44	2.44	. .	. .	.	0 50 20.1	15.5		
30	7 42.5	.	. . . .	. .	. .	. .	.	0 50 10.7:	14.3		
December 6	7 18.8	.	0 22 50.58	2.40	. .	. .	.	0 49 23.8	14.7		
14	6 47.2	.	0 22 44.39	2.35							
20	6 23.6	.	0 22 45.04	2.31							
22	6 15.8	.	0 22 45.05	2.50							
24	6 7.9	.	0 22 47.99	+ 2.32	. .	. .	.	+ 0 50 0.2	+ 14.4		
29	5 48.4	.		. .							

CERES.

October 25	10 58.9	.	1 18 8.61	— 2.52	. .	. .	.	— 6 30 28.4	— 30.4		
28	10 44.6	.	. . . .	. .	. .	. .	.	6 33 58.4	23.4		
November 10	9 44.7	.	6 44.63	— 2.56	. .	. .	.	— 8 30 23.8	— 17.5		

JUNO.

July 2	9 55.9	.	16 41 26.13	— 0.41							
4	9 46.8	.	40 12.26	0.33	. .	. .	.	— 4 10 38.1	+ 1.2		
6	9 37.7	.	39 2.51	— 0.29	. .	. .	.	— 4 14 58.9:	— 0.1		

VESTA.

January 5	8 3.4	.	. . . .	. .	. .	. .	.	+ 11 8 58.3	— 2.7		
6	7 59.6	.	3 3 2.45	+ 0.29	. .	. .	.	. . . .	. .		
8	7 51.7	.	. . . .	. .	. .	. .	.	11 21 20.1	+ 6.3		
9	7 47.9	.	. . . .	. .	. .	. .	.	11 25 50.4	— 2.2		
12	7 36.6	.	3 38.13	0.24	. .	. .	.	11 39 28.6	2.1		
22	7 0.2	.	. . . .	. .	. .	. .	.	12 30 10.4	1.5		
23	6 56.8	.	7 11.84	0.16							
25	6 50.0	.	8 9.84	0.16	. .	. .	.	+ 12 46 44.9	— 3.0		
26	6 46.5	.	8 41.10	+ 0.02							
27	6 43.1	.	9 13.46	0.00							
29	6 36.4	.	10 22.54	— 0.08							
February 5	6 13.6	.	15 4.77	— 0.07							

HEBE.

January 9	9 10.2	.	. . . .	. .	. .	. .	.	+ 2 2 24.9			
12	8 58.1	.	4 25 23.98								
16	8 42.2	.	25 14.83								
25	8 8.4	.	26 45.76								
28	7 57.6		27 48.57								

IRIS.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
March 2	13 2.2	.	. . . .	. .	. .	. .	.	— 7 54 20.7	+ 20.4		
3	12 57.5	.	11 46 30.61	— 4.08	. .	. .	.	7 49 29.3	22.9		
5	12 47.8	.	44 40.72	4.04	. .	. .	.	7 39 12.4	21.6		
8	12 33.1	.	. . . .	. .	. .	. .	.	7 22 44.0	21.6		
12	12 13.7	.	38 5.84	4.15	. .	. .	.	6 59 1.7	21.8		
21	11 30.0	.	29 42.68	4.11	. .	. .	.	6 0 35.9	22.1		
23	11 20.3	.	. . . .	. .	. .	. .	.	5 47 5.0	23.1		
24	11 15.5	.	27 3.13	— 4.00	. .	. .	.	5 40 16.2	+ 21.9		
April 6	10 14.5	.	17 4.74	. .	. .	. .	.	4 13 38.2			
7	10 9.9	.	16 26.58	. .	. .	. .	.	4 7 21.2			
11	9 51.8	.	. . . .	. .	. .	. .	.	3 43 2.3			
18	9 21.2	.	10 58.90	. .	. .	. .	.	— 3 4 39.3			
19	9 16.9	.	10 37.56	. .							
21	9 8.4	.	9 99.69	. .							

VICTORIA.

June 27	12 45.2	.	. . . .	. .	. .	. .	.	— 9 1 14.1:	+ 5.2		
28	12 40.4	.	19 10 42.19	+ 6.73							
29	. . .	.	. . . .	. .	. .	. .	.	8 48 56.8:	8.2		
July 2	12 21.4	.	19 7 21.41	6.87	. .	. .	.	8 32 4.7:	12.2		
4	12 11.8	.	19 5 37.92	6.98	. .	. .	.	8 21 47.5:	7.9		
5	12 7.0	.	19 4 45.93	6.87	. .	. .	.	8 17 2.2	8.8		
6	12 2.2	.	19 3 53.70	6.91	. .	. .	.	8 12 30.1	9.4		
8	11 52.7	.	. . . .	. .	. .	. .	.	8 4 4.7	8.0		
11	11 38.2	.	18 59 34.61	6.99	. .	. .	.	7 53 13.1	8.9		
16	11 14.5	.	18 55 28.59	+ 6.62	. .	. .	.	7 39 48.5	+ 11.9		
25	10 32.8	.	49 12.92	. .	. .	. .	.	7 29 48.7			
27	10 23.8	.	. . . .	. .	. .	. .	.	7 29 58.8:			
28	10 19.4	.	. . . .	. .	. .	. .	.	7 30 15.7			
29	10 15.0	.	18 47 5.74	. .	. .	. .	.	7 30 51.6			
30	. . .	.	. . . .	. .	. .	. .	.	— 7 29 3.0			
August 1	10 2.0	.	18 45 50.19								
3	9 53.4	.	18 45 9.78								

EUNOMIA.

July 2	12 51.1	.	19 37 12.04	. .	. .	. .	.	— 23 29 38.6			
4	12 41.3	.	35 10.63	. .	. .	. .	.	23 25 36.6			
5	. . .	.	. . . .	. .	. .	. .	.	23 23 33.6			
6	12 31.3	.	33 6.64	. .	. .	. .	.	23 21 28.5			
8	12 21.4	.	31 0.80								
11	12 6.4	.	27 49.92	. .	. .	. .	.	23 10 20.4			
15	11 46.4	.	23 33.28								
16	11 41.4	.	22 29.64	. .	. .	. .	.	22 58 6.1			
18	11 31.4	.	. . . .	. .	. .	. .	.	22 52 52.9			
23	11 6.5	.	. . . .	. .	. .	. .	.	22 39 39.1:			
25	10 56.6	.	. . . .	. .	. .	. .	.	22 33 18.2			
28	10 42.0	.	. . . .	. .	. .	. .	.	22 20 28.6			
29	10 37.2	.	9 27.06	. .	. .	. .	.	22 21 15.4			
30	10 32.8	.	. . . .	. .	. .	. .	.	— 22 18 7.4			

PSYCHE.

July 25	11 48.5	.	20 5 0.98	. .	. .	. .	.	— 17 54 11.7			
August 1	11 15.3	.	19 59 22.67	. .	. .	. .	.	— 18 19 2.6			

THETIS.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
May 4	. . .	.	. . . .	. .	. .	. .	.	— 9 57 9.2			
5	12 50.7	.	15 48 6.06	. .	. .	. .	.	9 54 0.5			
16	11 57.8	.	38 21.51	. .	. .	. .	.	9 24 51.0			
30	10 50.1	.	. . . .	. .	. .	. .	.	9 9 7.0			
31	10 45.7	.	25 15.20								
June 1	10 41.0	.	. . . .	. .	. .	. .	.	— 9 9 14.0			

MELPOMENE.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
January 25	7 0.7	.	3 18 55.23								
27	6 55.1	.	21 13.82								
29	6 49.6	.	23 33.84								

FORTUNA.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
December 22	11 2.5	.	5 10 20.89	— 4.98	. .	. .	.	+ 20 43 50.0	— 2.8		
24	10 52.7	.	. . . .	. .	. .	. .	.	20 41 15.5	— 4.6		
29	10 38.9	.	5 4 13.20	. .	. .	. .	.	+ 20 35 26.4			

EUTERPE.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
December 22	12 46.3	.	6 54 25.66	+ 0.01	. .	. .	.	+ 23 2 58.1	— 2.6		

AMPHITRITE.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
October 25	12 5.9	.	2 25 13.69	— 8.88	. .	. .	.	+ 21 43 0.8	— 60.0		
28	11 51.0	.	. . . .	. .	. .	. .	.	21 36 36.6:	57.4		
November 4	11 18.6	.	. . . .	. .	. .	. .	.	21 17 49.6	61.8		
5	11 13.6	.	. . . .	. .	. .	. .	.	+ 21 14 47.0	— 63.5		

FIDES.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
November 29	12 11.5	.	4 48 53.45	+ 0.73	. .	. .	.	+ 27 33 57.6	+ 2.6		
December 3	11 54.3	.	. . . .	. .	. .	. .	.	+ 27 30 58.4	+ 0.7		
22	10 19.3	.	4 26 58.89								

RIGHT ASCENSIONS AND DECLINATIONS

OF

STARS, ASTEROIDS, AND COMETS,

OBSERVED WITH THE EQUATORIAL,

1864.

RIGHT ASCENSIONS AND DECLINATIONS OF STARS, ASTEROIDS, AND COMETS,

OBSERVED WITH THE EQUATORIAL IN 1864.

DATE.	MEAN TIME—WASH.	COMPARISON STARS.	α	δ	No. of comp.
		EGERIA.			
1864.	h. m. s.		h. m. s.	° ′ ″	
January 5	8 42 2.3	Oeltzen N. 8459	7 51 47.35	+ 46 45 29.58	20
6	8 41 32.4	Oeltzen N. 8459	7 50 33.37	46 52 48.21	13
9	8 44 22.7	Oeltzen N. 8459	7 46 44.28	47 12 54.45	6
9	8 44 22.7	Oeltzen N. 8445	7 46 44.26	47 12 50.32	6
11	9 32 13.2	Radcliffe 2048	7 44 5.67	+ 47 24 38.90	4
		EURYNOME.			
January 9	7 4 56.1	Weisse I, 269	1 16 34.59	+ 5 49 6.55	9
12	7 15 53.2	Weisse I, 328	1 21 3.51	6 12 16.78	6
February 4	6 55 24.6	Weisse I, 1022	1 59 13.29	7 28 20.05	11
24	8 3 40.0	Weisse II, 615	2 37 0.62	12 57 57.04	14
27	7 4 36.8	Weisse II, 746	2 42 51.67	12 53 51.86	5
March 2	8 22 50.8	Weisse II, 841	2 51 0.06	13 28 55.46	10
3	8 0 10.1	(* 132) W.	2 52 57.89	13 37 9.82	10
April 6	8 39 35.4	Weisse 2, IV, 65	4 5 22.46	17 47 14.67	2
7	8 22 51.3	Weisse 2, IV, 183	4 7 34.36	+ 17 52 51.38	10
		COMET 1863, VI, (Respighi.)			
January 25	7 4 14.3	Oeltzen N. 23383	22 0 21.13	+ 52 46 23.01	7
26	7 13 39.0	Oeltzen N. 24533	22 36 24.36	53 46 41.40	14
27	6 49 46.7	Radcliffe 6067	23 17 24.39	54 3 51.09	2
27	7 34 17.0	Radcliffe 6081	23 18 53.03	54 3 28.88	14
28	7 13 44.9	Oeltzen N. 26423	0 4 2.51	53 19 0.42	8
February 3	9 28 42.4	B. Z. 398, 17	3 37 3.53	28 42 29.22	8
5	9 0 16.3	ω^2 Tauri	4 9 11.63	20 10 29.78	6
8	8 14 17.5	(* 128) W.	4 40 37.12	10 36 26.26	14
9	8 16 31.1	Weisse IV, 1028	4 48 22.97	8 7 40.53	14
10	7 53 38.8	(* 129) W.	4 55 3.61	5 59 26.34	14
11	8 21 33.3	Weisse V, 55	5 1 9.40	4 2 46.72	10
12	10 43 28.1	(* 130) W.	5 6 59.48	2 11 10.40	7
13	7 16 51.8	(* 131) W.	5 11 4.19	+ 0 56 16.24	8
		CONCORDIA.			
March 9*	10 0 55.4	Weisse (2,) VIII, 490	8 21 47.47	+ 16 43 34.04	6
		PHOCEÆ.			
April 7	10 40 28.4	Oeltzen S. 12629	12 57 37.12	— 16 51 44.29	19
18	9 55 18.2	Weisse XII, 834	12 48 15.31	14 1 25.24	3
19	10 42 16.2	Weisse XII, 857	12 47 26.07	13 44 47.21	10
23	11 45 46.1	Weisse XII, 743	12 44 11.44	12 39 5.84	12
25	9 36 11.3	Weisse XII, 728	12 43 2.45	— 12 8 32.82	3
		EUROPA.			
April 26	10 35 16.5	Weisse XIII, 354	13 23 28.79	+ 2 20 27.60	10
28	9 56 17.5	Weisse XIII, 354	13 22 11.47	2 26 38.10	14
29	9 57 2.1	Weisse XIII, 354	13 21 33.16	2 29 29.48	20
May 4	8 52 7.0	Weisse XIII, 303	13 18 34.55	+ 2 41 36.63	12
		CIRCE.			
May 4	10 48 27.2	Weisse XIV, 1149	15 4 27.40	— 11 14 51.06	3
5	10 49 14.9	Weisse XV, 3	15 3 36.75	11 9 28.53	13
7	10 22 13.3	Weisse XV, 3	15 1 53.33	10 58 52.60	14
16	8 57 46.3	Weisse XIV, 1048	14 54 29.97	— 10 15 1.82	11

* An unsatisfactory observation.

DATE.	MEAN TIME—WASH.	COMPARISON STARS.	α	δ	No. of comp.
		THETIS.			
1864.	h. m. s.		h. m. s.	° ′ ″	
May 30	9 36 35.0	Weisse XV, 444	15 26 5.33	— 9 9 6.41	17
31	9 25 8.7	Weisse XV, 444	15 25 18.36	9 9 6.76	10
		BELLONA.			
June 3	10 57 9.8	Weisse XVI, 845	16 43 18.48	8 41 34.67	10
22	9 48 18.7	Weisse XVI, 539	16 28 15.10	8 50 59.66	8
		JUNO.			
June 14	10 0 49.3	B. A. C. 5724	16 54 57.29	3 54 47,25	10
15	9 44 45.5	B. A. C. 5724	16 54 7.50	3 54 18.24	19
16	10 48 43.3	B. A. C. 5724	16 53 15.77	3 53 54.63	10
20	10 12 54.9	Weisse XVI, 958	16 50 2.91	3 53 59.74	5
		EUNOMIA.			
July 4	11 31 11.7	Oeltzen S. 19909	19 35 13.45	23 25 40.55	6
25	8 47 9.4	B. A. C. 6607	19 13 19.78	22 33 30.22	20
		VICTORIA.			
July 5	10 41 35.8	B. A. C. 6564	19 4 49.23	8 16 17.97	20
13	9 22 53.3	Weisse XVIII, 1398	18 57 58.73	7 47 23.86	14
13	9 22 53.3	Weisse XVIII, 1412	18 57 58.56	7 47 23.89	14
14	9 7 36.4	Weisse XVIII, 1398	18 57 9.63	7 44 42.38	14
14	9 7 36.4	Weisse XVIII, 1412	18 57 9.48	7 44 43.35	14
		PSYCHE.			
July 15	10 27 2.6	Oeltzen S. 20423	20 13 37.59	17 18 57.78	8
16	10 53 6.0	Oeltzen S. 20423	20 12 47.60	17 21 25.80	10
29	11 7 55.5	Oeltzen S. 20294	20 1 51.15	18 8 20.92	10
		ARIADNE.			
August 1	11 9 39.6	Weisse XXI, 1085	21 48 53.20	7 1 20.81	6
3	9 39 25.6	Weisse XXI, 1085	21 47 11.60	7 5 33.52	13
		CALYPSO.			
August 5	10 37 15.0	Weisse XXI, 1106	21 46 49.06	12 56 22.19	4
24	9 38 39.5	Weisse XXI, 739	21 30 36.36	14 48 2.13	5
29	9 13 33.1	Oeltzen S. 21480	21 26 30.19	15 15 35.52	10
		COMET 1864, I.			
August 12	8 22 40.1	Weisse XIII, 81	13 9 5.92	2 38 29.62	3
15	8 26 19.8	Weisse XIII, 676	13 40 44.89	7 50 0.62	4
29	8 2 17.9	Weisse XIV, 199	14 14 30.69	13 15 10.24	6
31	7 55 19.6	Weisse XIV, 293	14 15 53.95	13 29 28.95	10
31	7 55 19.6	Weisse XIV, 316	14 15 54.65	— 13 29 30.55	10
		PALLAS.			
September 1	10 22 19.3	B. A. C. 7827	22 19 18.73	+ 4 13 5.50	10
16	8 58 44.3	Weisse XXII, 153	22 8 45.29	1 2 37.16	14
17	8 16 8.6	Weisse XXII, 113	22 8 8.38	+ 0 50 5.11	14
		ISIS.			
September 2	8 46 11.4	Oeltzen S. 22373	22 37 18.98	— 26 59 23.74	10
9	10 4 53.5	Wash. Z. LIV, 17	22 32 3.81	27 20 6.42	12
12	8 31 8.8	Wash. Z. LIV, 17	22 30 7.63	27 23 24.32	14
13	9 38 21.6	Wash. Z. LIV, 17	22 29 28.80	27 23 48.84	15
		METIS.			
September 12	10 31 33.7	Weisse O, 845	0 50 41.79	4 24 35.24	6
13	10 38 5.5	Weisse O, 845	0 49 58.76	4 29 52.72	20
16	9 50 30.6	Weisse O, 845	0 47 41.35	4 45 38.49	10
17	10 16 14.9	Weisse O, 836	0 46 51.30	— 4 51 4.48	5

DATE.	MEAN TIME—WASH.	COMPARISON STARS.	α	δ	No. of comp.
		ATALANTA.			
1864.			h. m. s.	° ′ ″	
September 16	10 38 46.3	Oeltzen S. 21903	22 0 19.44	— 25 26 59.02	5
17	9 17 32.1	Oeltzen S. 21903	21 59 23.61	25 19 27.37	15
19	9 48 25.9	Oeltzen S. 21903	21 57 29.26	— 25 2 32.95	8
		HARMONIA.			
September 24	10 17 58.7	Weisse I, 389	1 23 29.59	+ 0 29 44.74	7
October 17	8 23 28.7	Weisse O, 1041	1 2 7.72	— 1 31 58.24	10
17	8 23 28.7	Weisse O, 1054	1 2 8.75	1 31 59.39	10
18	7 24 5.1	Weisse O, 1041	1 1 14.28	— 1 35 46.70	12
		ECHO.			
October 7	9 3 33.7	Weisse II, 61	2 7 13.49	+ 11 19 15.05	10
8	9 10 12.4	Weisse II, 61	2 6 30.79	11 13 2.25	13
10	10 0 58.7	Weisse II, 61	2 4 56.87	10 59 35.00	4
11	9 0 12.2	Weisse II, 61	2 4 11.12	10 53 5.03	10
20	9 7 50.0	Weisse I, 1045	1 56 21.25	9 48 40.62	10
25	9 28 43.8	Weisse I, 880	1 51 43.44	9 11 24.72	10
31	9 33 56.6	Weisse I, 820	1 46 15.11	8 27 54.11	2
November 4	8 1 26.9	Rumker N. F., 928	1 42 15.20	+ 8 1 5.82	12
		CERES.			
October 18	8 7 29.8	Weisse I, 402	1 24 11.11	— 6 15 48.51	15
20	7 25 17.6	Weisse I, 381	1 22 29.10	6 20 39.95	10
20	7 25 17.6	Weisse I, 402	1 22 29.18	— 6 20 40.84	10
		AMPHITRITE.			
October 18	9 15 3.3	Weisse II, 805	2 32 11.47	+ 21 53 5.69	10
20	8 14 26.3	Weisse II, 805	2 30 21.34	21 51 7.00	6
		CYBELE.			
November 5	7 44 47.8	Weisse III, 139	3 9 17.15	13 8 49.49	5
5	8 5 49.6	Weisse III, 168	3 9 16.64	13 8 46.72	15
14	8 10 6.6	B. A. C. 987	3 2 43.85	12 40 1.97	10
23	9 18 15.5	Weisse II, 1001	2 56 26.62	12 13 43.61	4
25	7 59 46.6	Weisse II, 1001	2 55 10.65	12 8 37.53	10
		FIDES.			
November 25	9 17 2.2	Weisse 2, IV, 1261	4 53 3.89	27 35 8.49	10
29	9 0 9.1	Weisse 2, IV, 1047	4 49 1.98	27 33 58.42	10
30	9 56 46.3	Weisse 2, IV, 1047	4 47 57.47	27 33 24.62	9
		FORTUNA.			
December 6	8 29 21.5	Rumker 1473	5 27 12.31	21 8 9.32	6
7	8 58 17.7	Rumker 1473	5 26 7.05	21 6 34.45	8
7	8 56 32.1	Σ Cat. Gen. 599	5 26 8.83	21 6 36.67	7
14	9 12 40.6	Weisse 2, V, 478	5 18 34.17	20 55 31.66	15
		EUTERPE.			
December 14	10 5 59.6	Σ Cat. Gen. 825, *p*.	7 1 48.04	22 41 59.20	4
22	10 54 17.9	ω^2 Geminorum	6 54 30.36	23 2 48.34	10
		TERPSICHORE.			
December 22	8 35 48.7	Weisse O, 247	0 14 28.00	6 24 54.48	7
24	7 57 47.8	Weisse O, 302	0 16 29.10	6 40 1.88	10
27	9 18 15.2	Weisse O, 302	0 19 44.75	+ 7 4 19.37	8

DATE.		STARS COMPARED.	STAR OF COMPARISON.	α	δ	No. of comp.
			PLEIADES.	1860. 0.	1860. 0.	
1864.				h. m. s.	° ′ ″	
October	12	A. 1	η Tauri	3 37 7.97	+ 23 35 34.38	9
	12	* 62	η Tauri	3 37 16.91	23 38 28.10	9
	12	A 7	η Tauri	3 37 33.34	23 35 52.44	9
	12	A 13	η Tauri	3 38 45.71	23 33 26.59	9
	12	A 11	η Tauri	3 38 20.59	23 39 53.83	9
	14	A 19	23 *d* Merope	3 39 3.37	23 22 2.56	10
November	4	A 19	23 *d* Merope	3 39 3.43	23 22 3.03	6
October	14	A 22	23 *d* Merope	3 39 6.40	23 28 44.43	10
November	4	A 17	23 *d* Merope	3 39 0.49	23 18 20.34	6
	4	A 23	23 *d* Merope	3 39 9.72	23 14 28.59	6
November	5	A 25	A 23	3 39 19.40	23 10 21.40	5
	5	A 26	A. 23	3 39 25.06	23 6 22.56	5
	5	A 28	A. 23	3 40 3.43	23 59 7.84	5
	5	* 49	A. 26	3 39 5.84	23 6 42.83	2
	5	* 50	A. 26	3 39 8.75	23 6 15.75	2
	5	* 51	A. 26	3 38 22.82	23 7 1.38	1
November	14	* 52	16 *g* Celæno	3 37 18.49	23 54 30.92	5
	14	20 *c* Maia	16 *g* Celæno	3 37 30.08	23 55 38.42	5
	14	19 *e* Taygeta	16 *g* Celæno	3 36 52.68	24 1 31.38	3
	14	* 53	16 *g* Celæno	3 37 14.68	24 1 21.17	3
November	30	* 54	η Tauri	3 38 50.45	23 50 25.61	4
	30	* 55	η Tauri	3 39 47.80	23 42 28.51	4
	30	26 S.	η Tauri	3 40 38.31	23 25 32.34	6
	30	A. 30	η Tauri	3 40 53.66	23 27 17.42	6
	30	A. 38	27 *f* Atlas	3 41 39.49	23 25 11.02	3
December	7	A. 38	27 *f* Atlas	3 41 39.72	23 25 9.16	10
	7	* 56	A. 38	3 41 38.11	23 31 20.66	5
December	12	* 57	16 *g* Celæno	3 36 47.47	23 49 13.05	6
	12	A. 10	16 *g* Celæno	3 38 7.86	23 48 57.08	6
	12	* 58	16 *g* Celæno	3 37 25.31	23 46 40.90	3
	12	* 59	16 *g* Celæno	3 38 24.43	23 52 18.86	1
	12	* 60	16 *g* Celæno	3 36 5.99	23 57 4.18	2
	12	* 61	16 *g* Celæno	3 35 23.81	+ 23 55 44.56	1

The stars with A prefixed have Bessel's designation. The stars not observed by Bessel are designated by numbers only.

	DATE.	COMP. STAR.	α 1860. 0.	δ 1860. 0.	No. of comp.
	PRÆSEPE.				
	1864.		h. m. s.	° ′ ″	
1	Mar. 8	B.	8 27 16.61	+ 20 4 9.7	3
	12	B.	16.61	10.8	3
	April 23	A.	16.54	9.4	3
	Nov. 5	B.	16.67	10.2	3
2	Mar. 8	D.	8 27 41.63	20 15 5.3	2
	8	F.	41.56	3.8	3
	12	A.	41.78	8.8	3
	April 23	D.	41.54	6.2	3
	Dec. 3	H.	41.64	5.1	3
3	Nov. 5	B.	8 27 51.77	19 57 10.9	3
4	Mar. 12	N.	8 28 12.06	20 49 19.0	3
5	Mar. 12	E.	8 28 15.43	20 38 19.6	3
6	Dec. 24	F.	8 28 43.20	20 14 43.8	3
7	Mar. 12	B.	8 28 59.37	20 5 21.8	1
	April 21	K.	59.21	17.6	3
	Nov. 5	B.	59.58	19.8	3
8	Dec. 3	H.	8 29 8.25	20 15 0.0	
9	Nov. 5	B.	8 29 25.69	20 2 52.3	3
10	Oct. 29	C.	8 29 26.93	19 38 46.3	3
	Nov. 1	C.	26.93	45.6	3
11	Mar. 12	G.	8 29 30.02	20 29 53.1	3
	12	G.	29.97	53.8	3
	12	E.	29.71	55.3	3
	April 26	G.	29.73	54.3	3
12	Oct. 29	C.	8 29 41.08	19 37 5.5	3
	Nov. 1	C.	41.18	3.6	3
13	Mar. 24	D.	8 29 59.29	20 5 15.8	3
14	Mar. 24	G.	8 30 0.30	20 37 0.0	3
	April 28	N.	0.17	36 50.1	3
15	Nov. 12	H.	8 30 11.91	20 2 17.6	3
	Nov. 15	B.	11.85	15.4	3
16	April 21	K.	8 30 29.88	19 57 5.3	3
17	Mar. 12	F.	8 30 30.94	20 20 54.9	2
	24	L.	30.82	55.1	3
	April 26	L.	30.88	53.4	3
	Dec. 12	H.	30.82	53.5	3
	24	L.	30.94	51.8	3
18	Mar. 12	G.	8 30 34.28	20 28 37.8	3
	April 26	G.	34.15	37.0	3
19	Nov. 12	B.	8 30 34.07	19 57 8.8	3
20	Nov. 15	D.	8 30 34.84	20 8 7.4	3
21	Mar. 12	H.	8 30 45.04	19 59 20.9	3
	12	B.	45.01	22.5	3
	April 21	K.	44.69	17.9	3
	Nov. 5	B.	44.98	21.7	3
22	Mar. 23	O.	8 30 53.23	19 36 57.3	1
	April 18	O.	53.19	54.5	3
23	Oct. 29	H.	8 30 53.63	19 41 10.4	3
24	Oct. 29	H.	8 30 57.55	19 54 47.7	3
	Nov. 1	H.	57.31	47.6	3
25	Mar. 12	G.	8 31 0.04	20 29 18.0	3
	24	L.	0.09	21.6	3
	April 26	G.	8 31 0.03	+ 20 29 18.6	2
26	April 23	A.	8 31 0.22	+ 20 12 50.7	3
	Nov. 24	D.	0.05	49.8	5
27	Mar. 24	G.	8 31 1.39	20 36 2.4	3
28	April 21	K.	8 31 6.62	20 4 53.2	3
	23	D.	6.72	49.0	3
	Nov. 5	B.	7.05	55.8	3
	12	K.	6.61	53.5	3
	15	D.	6.83	51.0	3
29	Nov. 24	D.	8 31 7.53	20 10 1.3	3
30	April 26	G.	8 31 15.52	20 32 34.6	3
	28	G.	15.56	34.8	3
31	Oct. 29	C.	8 31 23.50	19 56 57.7	4
32	April 28	G.	8 31 26.75	20 33 35.1	3
33	Mar. 12	N.	8 31 29.08	20 39 26.5	3
	April 28	N.	29.08	25.5	3
34	May 5	C.	8 31 31.16	19 47 7.0	3
	Nov. 1	I.	31.18	6.5	3
35	Nov. 1	H.	8 31 41.19	19 48 9.5	3
36	Mar. 23	O.	8 31 42.96	19 41 40.8	12
37	Feb. 18	C.	8 31 43.49	19 45 55.0	3
	Mar. 8	C.	43.49	55.0	3
	24	C.	43.40	56.7	3
	May 5	C.	43.44	55.7	3
	Oct. 29	C.	43.53	57.1	3
	Nov. 5	I.	43.43	57.0	3
38	Nov. 1	I.	8 31 44.37	19 51 28.7	3
39	Mar. 8	B.	8 31 48.79	20 1 56.9	3
	12	B.	48.80	56.1	3
	24	C.	48.71	55.7	3
	24	B.	48.80	56.6	3
	April 21	K.	48.51	53.4	3
	Nov. 12	K.	48.44	54.3	3
40	May 5	H.	8 31 51.04	19 48 14.0	3
	Nov. 1	I.	51.08	11.6	3
41	April 28	G.	8 31 51.50	20 33 23.9	3
42	April 28	N.	8 31 54.33	20 39 23.2	3
43	April 28	H.	8 31 55.59	20 31 24.9	3
44	April 21	K.	8 31 55.64	20 1 56.3	3
	Nov. 5	B.	55.92	59.9	3
	Nov. 12	K.	55.53	56.5	3
45	Nov. 15	D.	8 31 56.38	20 9 33.9	3
	Nov. 24	D.	56.50	35.1	3
46	Oct. 29	C.	8 31 57.18	19 41 32.2	3
47	Dec. 3	F.	8 31 57.96	20 17 53.1	3
48	Nov. 24	D.	8 32 2.38	20 13 14.6	3
	Dec. 3	F.	2.45	13.6	2
49	Nov. 12	K.	8 32 4.33	19 56 42.1	3
50	Nov. 1	I.	8 32 5.00	19 47 55.9	3
51	Nov. 15	K.	8 32 8.38	19 55 57.8	3
52	Nov. 15	D.	8 32 10.08	20 7 52.2	3
	Nov. 24	D.	8 32 10.18	+ 20 7 50.3	3

	DATE.	COMP. STAR.	α 1860. 0.	δ 1860. 0.	No. of comp.
	PRÆSEPE.				
	1864.		h. m. s.	° ′ ″	
53	April 28	G.	8 32 12.13	+ 20 29 9.0	3
54	Dec. 3	F.	8 32 15.06	20 16 46.8	3
55	April 21	K.	8 32 16.00	20 1 25.6	3
	Nov. 5	B.	16.31	27.8	3
	Nov. 12	K.	16.07	25.8	3
56	April 18	O.	8 32 18.10	19 46 12.9	3
	Nov. 15	D.	8 32 18.35	20 10 43.2	3
57	Nov. 29	D.	18.37	42.4	3
	Dec. 3	F.	18.42	42.7	3
	Mar. 8	D.	8 32 19.70	20 9 43.5	3
	24	D.	19.71	43.0	3
	24	A.	19.96	46.4	3
58	April 21	K.	19.60	46.3	3
	23	D.	19.66	42.9	3
	23	A.	19.87	44.7	3
	23	F.	19.71	40.6	3
	Nov. 15	D.	19.64	43.0	3
	24	D.	19.69	43.9	3
	29	D.	19.71	42.6	3
	Mar. 12	A.	8 32 20.85	20 19 44.5	3
59	24	L.	20.69	39.9	3
	April 26	L.	20.58	38.3	3
	Dec. 3	F.	20.69	39.2	3
60	April 23	F.	8 32 21.20	20 10 41.9	3
61	Mar. 12	C.	8 32 23.75	19 58 6.6	3
	Nov. 12	R.	23.71	2.7	3
62	April 28	N.	8 32 22.63	20 40 22.2	3
63	Nov. 24	D.	8 32 23.72	20 10 42.4	3
	Mar. 24	B.	8 32 25.21	20 2 17.3	3
64	April 21	K.	24.95	14.0	6
	23	F.	24.93	9.7	3
	Nov. 12	K.	24.84	13.7	3
65	Oct. 29	C.	8 32 32.23	19 41 12.5	3
66	Mar. 23	O.	8 32 37.90	19 38 59.9	3
67	Feb. 18	C.	8 32 38.23	19 43 15.5	3
	Mar. 8	C.	38.30	16.9	3
	Mar. 8	F.	8 32 40.73	20 12 44.0	1
68	April 23	F.	40.76	41.8	3
	Nov. 24	D.	40.68	44.3	3
	29	D.	40.78	45.4	3
	May 5	C.	8 32 45.00	19 48 9.5	5
69	Oct. 29	C.	45.12	10.3	3
	Nov. 5	I.	44.99	10.4	3
70	Nov. 15	K.	8 32 44.96	20 2 11.4	3
71	Mar. 12	E.	8 32 48.19	20 45 39.2	3
	12	N.	48.26	32.3	3
	Mar. 8	B.	8 32 54.46	20 4 30.1	3
	12	B.	54.52	30.1	3
	April 21	K.	54.16	26.6	3
72	21	K.	54.21	25.5	3
	Nov. 5	B.	54.39	27.5	3
	5	B.	54.56	29.5	3
	12	K.	54.19	26.8	3
	24	K.	54.18	26.5	3
	Mar. 12	G.	8 32 53.94	20 25 41.3	3
	24	F.	53.96	47.5	3
73	24	L.	54.01	44.0	3
	April 26	L.	53.95	45.4	3
	28	G.	53.96	42.0	3
	Dec. 24	L.	8 32 53.91	+ 20 25 46.0	3
	PRÆSEPE.				
	1864.		h. m. s.	° ′ ″	
74	Nov. 15	K.	8 33 2.67	+ 20 0 58.9	3
75	Dec. 3	F.	8 33 6.98	20 20 56.0	3
	24	F.	6.78	59.5	3
	April 26	L.	8 33 8.02	20 19 26.7	3
76	Dec. 3	F.	8.04	25.9	3
	24	F.	8.00	26.9	3
77	Nov. 12	B.	8 33 8.54	20 0 13.3	3
	Mar. 8	F.	8 33 11.09	20 25 2.9	1
	12	G.	10.80	24 57.5	3
78	April 26	L.	10.84	25 1.6	3
	26	L.	10.84	1.1	3
79	April 18	O.	8 33 16.97	19 41 3.7	2
	Feb. 18	C.	8 33 17.48	19 45 18.5	3
80	Oct. 29	C.	17.47	21.7	3
	Nov. 5	I.	17.56	22.1	3
81	April 21	K.	8 33 25.21	20 2 12.9	3
	Nov. 5	B.	25.55	17.4	3
	Mar. 8	D.	8 33 32.76	20 9 27.9	3
	12	A.	32.92	31.3	3
	24	D.	32.76	27.2	3
82	24	A.	32.96	30.5	3
	April 23	D.	32.72	28.7	3
	Nov. 15	D.	32.76	27.4	3
	24	D.	32.78	27.5	3
83	April 23	A.	8 33 40.44	20 9 24.8	3
	Nov. 24	D.	40.23	22.2	3
	Mar. 24	C.	8 33 44.72	19 45 47.6	3
84	May 5	C.	44.73	46.8	3
	Oct. 29	C.	44.79	47.0	3
	Mar. 12	E.	8 33 49.37	20 39 21.4	3
	12	N.	49.39	15.0	3
85	24	G.	49.71	23.7	2
	April 28	N.	49.39	13.5	3
86	Nov. 12	K.	8 34 3.27	20 5 48.8	3
87	Mar. 23	O.	8 34 4.68	19 50 13.0	11
	Feb. 18	C.	8 34 5.27	19 54 30.0	3
	Mar. 8	C.	5.41	31.0	3
	12	C.	5.26	29.9	3
88	24	C.	5.29	29.5	3
	24	B.	5.39	30.7	3
	Nov. 5	I.	5.28	30.8	3
89	Mar. 8	B.	8 34 5.34	19 58 50.0	3
90	Dec. 24	F.	8 34 15.34	20 13 11.0	3
91	Mar. 12	G.	8 34 17.07	20 32 3.2	3
	April 26	G.	16.99	3.6	3
92	Nov. 5	B.	8 34 39.45	20 2 30.5	3
	Mar. 8	D.	8 34 42.82	20 4 40.8	3
	12	B.	42.97	45.6	3
93	24	D.	42.81	41.0	3
	April 21	K.	42.72	41.7	3
	Nov. 5	B.	43.04	43.0	3
94	Nov. 15	K.	8 34 46.56	19 57 54.8	3
95	Mar. 12	C.	8 35 4.73	19 56 15.5	3
	Nov. 24	K.	4.75	11.8	3
96	Mar. 12	E.	8 35 32.09	20 41 27.7	3
97	Mar. 12	E.	8 36 24.47	+ 20 42 25.5	3

MEAN PLACES FOR 1860.0

OF

COMPARISON STARS,

USED IN

OBSERVATIONS WITH THE EQUATORIAL,

1864.

MEAN PLACES FOR 1860.0

OF STARS OF COMPARISON, OBSERVED WITH ASTEROIDS AND COMETS, 1864.

MEAN PLACES FOR 1860.0 OF COMPARISON STARS.

STAR.	MAG.	α	AUTHORITY.	δ	AUTHORITY.
			EGERIA.		
		h. m. s.		° ′ ″	
Oeltzen N. 8459	9	7 49 35.84	Oeltzen N.	+ 46 59 44.89	M. 3.
Oeltzen N. 8445	9	7 48 23.19	Oeltzen N.	47 10 55.50	M. 1.
Radcliffe 2048	6.5	7 44 17.63	Radcliffe Catalogue	+ 47 44 39.30	M. 3.
			EURYNOME.		
Weisse I, 269	9	1 17 6.60	Weisse Catalogue	+ 5 45 14.70	M. 1.
Weisse I, 328	8	1 20 2.41	Weisse Catalogue and Rumker C.	6 14 5.11	Weisse Cat. and Rumker Cat.
Weisse I, 1022	8	1 57 57.12	Weisse Catalogue	9 24 15.74	Weisse Catalogue.
Weisse II, 615	8	2 36 6.93	T. 1	12 41 35.60	M. 1.
Weisse II, 746	9	2 43 49.48	T. 2	12 54 48.10	M. 1.
Weisse II, 841	9	2 48 32.02	Weisse Catalogue	13 20 50.00	M. 1.
(* 132) W.	9.5	2 52 6.90	Washington Equatorial	13 45 8.69	Washington Equatorial.
Weisse 2, IV, 65	4	4 35.33	T. 1	17 28 15.43	M. 1.
Weisse IV, 183	4	9 55.84	Weisse Catalogue	+ 17 54 37.17	Weisse Catalogue.
			COMET, 1863, VI. RESPIGHI.		
Oeltzen N. 23385	7	22 0 50.36	Oeltzen N.	+ 52 56 34.50	M. 1.
Oeltzen N. 24533	8	22 35 53.60	Oeltzen N.	53 39 21.20	M. 2.
Radcliffe 6067	8	23 18 29.63	T. 1	54 19 0.84	Radcliffe Catalogue.
Radcliffe 6081	9	23 20 39.64	T. 1	54 5 42.44	Radcliffe Catalogue.
Oeltzen N. 26423	8	0 0 48.73	Oeltzen N.	53 1 8.74	M. 2.
B. Z. 398, 17	9	3 39 2.81	Weisse Catalogue	28 57 21.59	M. 1.
Tauri	5	4 9 3.75	T. 1	20 13 51.24	M. 2.
(* 128) W.	9	4 40 48.12	Washington Equatorial	10 42 54.98	M. 1.
Weisse IV, 1028	8	4 47 19.71	Weisse Catalogue	8 22 10.00	M. 2.
(* 129) W.	9	4 54 37.80	Washington Equatorial	5 55 19.60	Washington Equatorial.
Weisse V, 55	8	5 4 20.19	Weisse Catalogue	4 14 1.49	M. 2.
(* 130) W.	9	5 6 29.39	Washington Equatorial	2 10 48.84	Washington Equatorial.
(* 131) W.	9	5 12 12.68	Washington Equatorial	+ 0 58 21.70	M. 1.
			CONCORDIA.		
Weisse 2, VIII, 490	9	8 21 35.03	Weisse Catalogue	+ 16 40 19.47	M. 1.
			PHOCÆA.		
Oeltzen S. 12629	7.5	12 57 36.87	T. 1	— 16 55 20.20	M. 1.
Weisse XII, 834	8	12 49 5.52	Weisse Catalogue	14 11 17.68	M. 1.
Weisse XII, 857	8	12 50 35.25	Weisse Catalogue	13 35 14.50	M 2.
Weisse XII, 743	8.5	12 43 59.66	Weisse Catalogue	12 42 42.11	Weisse Catalogue.
Weisse XII, 728	8	12 43 10.81	T. 1	— 12 16 16.33	M. 1.
			EUROPA.		
Weisse XIII, 354	8	13 22 25.98	Weisse Catalogue	+ 2 26 4.65	M. 1.
Weisse XIII, 303	9	13 19 26.39	Weisse Catalogue	+ 2 27 45.56	Weisse Catalogue.
			CIRCE.		
Weisse XIV, 1149	8	15 1 18.21	Weisse Catalogue	— 11 15 3.90	M. 1.
Weisse XV, 3	9	15 2 1.34	Weisse Catalogue	11 2 16.10	M. 2.
Weisse XIV, 1048	8	14 56 18.86	Weisse Catalogue	— 10 27 4.38	M. 2.
			THETIS.		
Weisse XV, 444	8	15 24 43.14	T. 1	— 9 6 24.90	M. 1.

MEAN PLACES FOR 1860.0 OF COMPARISON STARS.

STAR.	MAG.	α	AUTHORITY.	δ	AUTHORITY.
			BELLONA.		
Weisse XVI, 845	8	16 44 21.44	T. 1	— 8 37 22.91	M. 2.
Weisse XVI, 539	7	16 28 55.02	Weisse Catalogue	— 8 33 48.59	M. 3.
			JUNO.		
B. A. C. 5724	6	16 53 40.75	Rumker Catalogue	— 4 0 32.64	M. 2.
Weisse XVI, 958	8	16 50 55.68	T. 1	— 4 7 21.34	M. 2.
			EUNOMIA.		
Oeltzen S. 19909	7	19 36 16.77	Oeltzen S.	— 23 25 36.24	M. 2.
B. A. C. 6307	6	19 12 14.60	T. 1. B. A. Catalogue	— 22 39 31.23	M. 3.
			VICTORIA.		
B. A. C. 6564	5	19 5 5.01	T. 1	— 8 10 10.65	M. 3.
Weisse XVIII, 1398	9	18 55 29.47	Weisse Catalogue	7 32 43.92	M. 3.
Weisse XVIII, 1412	9	18 55 55.34	T. 1	— 7 33 51.11	M. 3.
			PSYCHE.		
Oeltzen S. 20423	8	20 12 57.22	Oeltzen S.	— 17 16 1.54	M. 3.
Oeltzen S. 20294	9	20 3 14.55	Oeltzen S.	— 18 13 51.80	M. 2.
			ARIADNE.		
Weisse XXI, 1085	9	21 46 34.42	Weisse Catalogue	— 7 10 20.45	M. 1.
			CALYPSO.		
Weisse XXI, 1106	8.5	21 47 29.53	Weisse Catalogue	— 12 37 50.81	Weisse Catalogue.
Weisse XXI, 739	8	21 31 37.10	Weisse Catalogue	14 41 17.84	Weisse Catalogue.
Oeltzen S. 21480	9	21 26 52.75	Oeltzen S.	— 15 14 55.30	M. 1.
			COMET, 1864, I.		
Weisse XIII, 81	8	13 6 8.42	Weisse Catalogue	— 2 45 1.14	M. 2.
Weisse XIII, 676	9	13 39 59.37	Weisse Catalogue	7 47 58.22	M. 1.
Weisse XIV, 199	7	14 11 58.99	Weisse Catalogue	13 3 43.71	M. 1.
Weisse XIV, 293	7.5	14 16 59.25	Weisse Catalogue	13 26 36.14	M. 1.
Weisse XIV, 316	8.5	14 17 47.66	Weisse Catalogue	— 13 27 4.04	M. 1.
			PALLAS.		
B. A. C. 7827	6	22 20 46.23	T. 1	+ 3 59 41.77	M. 2.
Weisse XXII, 153	9	22 8 27.24	Weisse Catalogue	1 15 12.23	M. 1.
Weisse XXII, 113	9	22 6 42.15	Weisse Catalogue	+ 0 53 4.61	M. 1.
			ISIS.		
Oeltzen S. 22373	9	22 36 46.76	T. 1	— 27 1 30.20	M. 1.
Wash. Z. LIV, 17	8	22 30 36.46	Washington Zones of 1846	— 27 35 44.49	M. 1.
			METIS.		
Weisse O, 845	7	0 48 54.12	T. 1	— 4 29 49.88	Weisse Catalogue.
Weisse O, 836	8.5	0 48 35.01	Weisse Catalogue	— 4 45 9.77	Weisse Catalogue.
			ATALANTA.		
Oeltzen S. 21903	9	21 59 54.92	Oeltzen S.	— 25 22 37.38	M. 2.
			HARMONIA.		
Weisse I, 389	9	1 23 28.17	Weisse Catalogue	+ 0 38 8.75	Weisse Catalogue.
Weisse O, 1041	8.5	0 59 15.46	Weisse Catalogue	— 1 29 52.86	Weisse Catalogue.
Weisse O, 1054	9	0 59 55.84	Weisse Catalogue	— 1 20 24.18	Weisse Catalogue.
			ECHO.		
Weisse II, 61	8.5	2 5 19.67	T. 1	+ 11 12 4.02	M. 2.
Weisse I, 1045	8.5	1 59 13.03	Weisse Catalogue	9 48 28.88	M. 1.
Weisse I, 880	9	1 50 2.15	Weisse Catalogue	9 11 59.03	M. 3.
Weisse I, 820	9	1 46 4.95	Weisse Catalogue	8 33 38.35	Weisse Catalogue.
* Rumker N. F. 928	9	1 43 43.61	Rumker. Neue Folge	+ 7 51 19.10	M. 1.

* This star is Weisse I, 772. The α in Weisse is 10s. too small.

MEAN PLACES FOR 1860.0 OF COMPARISON STARS.

STAR.	MAG.	α	AUTHORITY.	δ	AUTHORITY.
			CERES.		
Weisse I, 402	8	1 24 5.15	Weisse Catalogue	— 6 16 1.94	M. 1.
Weisse I, 381	7	1 22 49.99	Weisse Catalogue	— 6 19 13.02	M. 1.
			AMPHITRITE.		
Weisse II, 805	8.5	2 33 32.62	Weisse Catalogue	+ 21 38 33.50	M. 2.
			CYBELE.		
Weisse III, 139	9	3 8 41.60	Weisse Catalogue	+ 13 19 52.67	M. 1.
Weisse III, 168	8	3 10 8.73	Weisse Catalogue	13 19 54.59	M. 2.
B. A. C. 987	6.5	3 3 40.91	B. A. Catalogue	12 30 52.67	M, 3.
Weisse II, 1001		2 57 18.20	Weisse Catalogue	+ 12 6 45.74	M. 2.
			FIDES.		
Weisse 2, IV, 1261	8	4 55 53.11	Weisse Catalogue	+ 27 29 43.82	Weisse Catalogue.
Weisse 2, IV, 1047	9	4 47 10.53	Weisse Catalogue	+ 27 36 35.71	M. 2.
			FORTUNA.		
Rumker 1473	8.7	5 27 3.34	Rumker Catalogue	+ 21 6 30.54	M. 1.
Σ. Cat G. 599	9	5 28 3.03	T. 1	21 5 35.86	M. 1.
Weisse 2, V, 478	9	5 17 30.45	T. 1	+ 21 0 13.78	M. 2.
			EUTERPE.		
Σ. Cat. Gen. 825, p.	9	7 3 36.68	Struve Cat. Gen.	+ 22 30 27.72	Struve Catalogue Gen.
ω^2 Geminorum	7	6 56 52.72	T. 1	+ 22 50 38.90	M. 1.
			TERPSICHORE.		
Weisse O, 247	9	0 14 47.46	Weisse Catalogue	+ 6 14 7.68	M. 2.
Weisse O, 302	7	0 18 28.53	Weisse Catalogue	+ 6 55 2.70	M. 1.
			* PLEIADES.		
η Tauri		3 39 10.031	Washington Observatory	+ 23 40 10.114	Washington Observatory.
23 d Merope		3 38 1.533	Washington Observatory	23 30 34.27	Washington Observatory.
A. 23		3 39 9.72	Washington Observatory	23 14 28.59	Washington Observatory.
A. 26		3 39 25.06	Washington Observatory	23 6 22.56	Washington Observatory.
16 g Celæno		3 36 29.27	Washington Observatory	23 50 45.74	Washington Observatory.
27 f Atlas		3 40 50.59	Washington Observatory	23 37 20.05	Washington Observatory.
A. 38		3 41 38.11	Washington Observatory	+ 23 31 20.66	Washington Observatory.

* The places of comparison stars for the Pleiades are all derived from η Tauri, by means of equatorial observations, made either in the present year or in 1863.

The stars marked M. T. have the places opposite to them as determined by the Transit and Mural of the Observatory. The following numerals indicate the number of observations. The places of all the stars of comparison have been determined in the same manner in this or the neighboring years. But the reductions had not been completed time enough to be used in the results as given in the preceding tables.

The right ascensions of all the stars as observed in the Transit are given in the List, page 390, by help of which the corrections necessary for the differences between the catalogue and observed places may be readily applied.

POSITIONS FOR 1860.0 OF STANDARD STARS USED IN OBSERVATIONS OF PRÆSEPE, 1864.

STAR.	MAG.	α	δ
		h. m. s.	° ′ ″
A	8	8 29 34.10	+ 20 13 7.5
B	8	29 38.50	20 0 14.6
C	7	29 45.22	19 45 9.0
D	8	31 3.47	20 9 56.0
E	8	31 38.84	20 34 37.2
F	7	31 39.90	20 16 8.2
G	7	32 3.00	20 29 57.3
H	7	32 8.09	20 27 45.4
I	7	32 18.78	19 50 29.4
K	8	31 54.27	20 2 38.7
L	7.5	33 47.38	20 22 13.6
M	9	34 17.78	20 40 45.9
N	8	8 30 18.10	+ 20 41 32.7

RIGHT ASCENSIONS OF STARS OF COMPARISON

AS DETERMINED BY

OBSERVATIONS OF THE TRANSIT INSTRUMENT.

STAR.	α	No. of obs.
EGERIA.	h. m. s.	
Oeltzen N. 8459	7 49 36.19	1
EURYNOME.		
Weisse I, 269	1 17 6.90	5
Weisse I, 328	1 20 2.56	5
Weisse I, 1022	1 57 56.78	3
Weisse II, 615	2 36 6.96	3
Weisse II, 746	2 43 49.46	3
Weisse II, 841	2 48 31.85	5
(* 132)	2 52 7.48	1
Weisse 2, IV, 65	4 4 35.26	2
Weisse 2, IV, 183	4 9 55.87	4
COMET, 1863, VI.		
Oeltzen N. 23385	22 0 50.22	3
Oeltzen N. 24533	22 35 53.47	4
Radcliffe 6067	23 18 29.67	3
Radcliffe 6081	23 20 39.73	3
Oeltzen N. 26423	0 0 48.71	3
B. Z. 398, 17	3 39 2.86	3
ω Tauri	4 9 3.67	1
(* 128) W.	4 40 48.08	2
Weisse IV, 1028	4 47 19.68	2
(* 129) W.	4 54 38.07	4
Weisse V, 55	5 4 20.85	2
(* 130) W.	5 6 28.85	2
(* 131) W.	5 12 12.07	1
CONCORDIA.		
Weisse VIII, 490	8 21 34.89	1
PHOCÆA.		
Oeltzen S. 12629	12 57 36.77	2
Weisse XII, 834	12 49 5.31	3
Weisse XII, 857	12 50 35.43	1
Weisse XII, 743	12 43 59.52	1
Weisse XII, 728	12 43 9.81	2
EUROPA.		
Weisse XIII, 354	13 22 25.63	5
Weisse XIII, 303	13 19 26.34	2
CIRCE.		
Weisse XIV, 1149	15 1 18.30	2
Weisse XV, 3	15 2 1.01	2
THETIS.		
Weisse XV, 444	15 24 43.08	2
BELLONA.		
Weisse XVI, 539	16 28 54.94	6
JUNO.		
B. A. C. 5724	16 53 40.70	2
Weisse XVI, 958	16 50 55.78	2

STAR.	α	No. of obs.
EUNOMIA.	h. m. s.	
Oeltzen S. 19909	19 36 16.80	1
VICTORIA.		
B. A. C. 6564	19 5 5.03	3
Weisse XVIII, 1398	18 55 29.47	7
Weisse XVIII, 1412	18 55 55.48	4
PSYCHE.		
Oeltzen S. 20423	20 12 57.08	3
Oeltzen S. 20294	20 3 14.39	2
ARIADNE.		
Weisse XXI, 1085	21 46 34.89	1
CALYPSO.		
Weisse XXI, 1106	21 47 29.52	5
Weisse XXI, 739	21 31 36.81	2
Oeltzen S. 21480	21 26 52.90	1
COMET, 1864, I.		
Weisse XIII, 81	13 6 8.20	1
Weisse XIV, 199	14 11 58.31	3
Weisse XIV, 293	14 16 59.80	5
Weisse XIV, 316	14 17 47.71	1
PALLAS.		
B. A. C. 7827	22 20 46.39	1
Weisse XXI, 153	22 8 26.83	2
Weisse XXI, 113	22 6 41.84	6
ISIS.		
Oeltzen S. 22373	22 36 46.98	4
Washington Z. LIV, 17	22 30 36.63	4
METIS.		
Weisse O, 845	0 48 54.77	3
Weisse O, 836	0 48 34.80	3
ATALANTA.		
Oeltzen S. 21903	21 59 54.65	4
HARMONIA.		
Weisse I, 389	1 23 20.06	5
Weisse O, 1041	0 59 15.69	3
Weisse O, 1054	0 59 55.24	2
ECHO.		
Weisse II, 61	2 5 19.74	1
Weisse I, 1045	1 59 12.88	2
Weisse I, 880	1 50 2.14	1
Weisse I, 829	1 46 4.85	4
Rumker N. F. 928	1 43 3.84	3

STAR.	α	No. of obs.
CERES.		
	h. m. s.	
Weisse I, 402	1 24 5.12	4
Weisse I, 381	1 22 50.12	4
AMPHITRITE.		
Weisse II, 805	2 33 32.50	1
CYBELE.		
Weisse III, 139	3 8 41.60	1
Weisse III, 168	3 10 8.44	2
B. A. C. 987	3 3 40.59	3
Weisse II, 1001	2 57 18.19	3
FIDES.		
Weisse 2, IV, 1261	4 55 53.09	2
Weisse 2, IV, 1047	4 47 11.38	2
FORTUNA.		
Rumker 1473	5 27 3.33	2
Σ. Cat. Gen. 599	5 28 1.08	3
Weisse 2, V, 478	5 17 30.40	2
EUTERPE.		
Σ. Cat. Gen. 825, p.	7 3 36.75	2
ω^2 Geminorum	6 56 52.61	3
TERPSICHORE.		
Weisse O, 247	0 14 47.74	5
Weisse O, 302	0 18 28.99	7

CONSTANTS FOR THE REDUCTION OF FIXED STARS.

These constants are prepared from the Logarithms A, B, C, and D, of the American Ephemeris and Nautical Almanac for the year 1864. The epoch to which the observations are reduced by them is 1860.0. The instant, 1860.0, is assumed to be January 0*d*.414, mean time, Washington, the moment when the Sun's mean longitude was 280°. The notation and form of publication is similar to that published in volume III of the Washington Observations, and the auxiliary tables used in the reductions are similar to those of that volume.

CONSTANTS FOR THE REDUCTION OF FIXED STARS.

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.	LOG. *g*.	LOG. *h*.	LOG. *i*.	*f*.	*t*.	*p*.	D
1864.	h.	h. m. s.	h. m. s.				s.	y.		°
Jan. 1	6.74	12 15 12	11 19 4 226	1.93651 35	1.3093	0.1963 367	— 13.205 11	— 4.003	.0117	190
2	6.81	12 15 11	11 15 18 226	1.93686 34	1.3091	0.2330 343	13.216 11	4.006	.0117	203
3	6.88	12 15 10	11 11 32 226	1.93720 34	1.3088	0.2673 320	13.227 10	4.009	.0117	216
4	6.95	12 15 9	11 7 46 227	1.93754 34	1.3085	0.2993 298	13.237 10	4.011	.0117	229
5	7.02	12 15 8	11 3 59 227	1.93788 33	1.3082	0.3291 278	13.247 10	4.014	.0117	243
6	7.08	12 15 7	11 0 12 227	1.93821 34	1.3079	0.3569 257	13.257 11	4.017	.0117	257
7	7.15	12 15 5	10 56 25 228	1.93855 33	1.3076	0.3826 241	13.268 10	4.019	.0118	272
8	7.21	12 15 4	10 52 37 228	1.93888 33	1.3072	0.4067 228	13.278 10	4.022	.0118	287
9	7.27	12 15 2	10 48 49 228	1.93921 33	1.3068	0.4295 215	13.288 10	4.024	.0118	302
10	7.33	12 15 1	10 45 1 229	1.93954 33	1.3064	0.4510 203	13.298 10	4.027	.0118	317
11	7.40	12 14 59	10 41 12 229	1.93987 32	1.3060	0.4713 192	13.308 10	4.030	.0118	333
12	7.46	12 14 57	10 37 23 230	1.94019 32	1.3056	0.4905 183	13.318 9	4.033	.0118	347
13	7.53	12 14 56	10 33 33 230	1.94051 31	1.3052	0.5088 175	13.327 10	4.036	.0119	2
14	7.59	12 14 54	10 29 43 231	1.94082 31	1.3047	0.5263 167	13.337 10	4.038	.0119	16
15	7.66	12 14 52	10 25 52 232	1.94113 31	1.3042	0.5430 159	13.347 10	4.041	.0119	29
16	7.72	12 14 50	10 22 0 232	1.94144 31	1.3037	0.5589 156	13.357 9	4.044	.0119	42
17	7.79	12 14 48	10 18 8 232	1.94175 30	1.3032	0.5740 145	13.366 10	4.047	.0119	55
18	7.85	12 14 46	10 14 16 233	1.94205 31	1.3027	0.5885 139	13.376 10	4.050	.0119	67
19	7.92	12 14 44	10 10 23 233	1.94236 30	1.3022	0.6024 134	13.386 10	4.052	.0120	79
20	7.99	12 14 42	10 6 30 234	1.94266 30	1.3016	0.6158 129	13.396 9	4.055	.0120	91
21	8.06	12 14 40	10 2 36 234	1.94296 29	1.3010	0.6287 124	13.405 9	4.058	.0120	103
22	8.12	12 14 37	9 58 42 235	1.94325 29	1.3004	0.6411 117	13.414 9	4.060	.0120	115
23	8.19	12 14 35	9 54 47 235	1.94354 29	1.2998	0.6528 114	13.423 9	4.063	.0120	127
24	8.26	12 14 33	9 50 52 236	1.94383 29	1.2992	0.6642 112	13.432 9	4.065	.0120	139
25	8.32	12 14 30	9 46 56 236	1.94412 28	1.2986	0.6754 105	13.441 9	4.068	.0120	151
26	8.39	12 14 28	9 43 0 237	1.94440 27	1.2980	0.6859 101	13.450 9	4.071	.0120	163
27	8.45	12 14 25	9 39 3 238	1.94467 27	1.2973	0.6960 98	13.459 9	4.074	.0120	175
28	8.52	12 14 23	9 35 5 238	1.94494 27	1.2967	0.7058 95	13.468 8	4.076	.0121	187
29	8.58	12 14 21	9 31 7 239	1.94521 27	1.2960	0.7153 91	13.476 9	4.079	.0121	199
30	8.64	12 14 18	9 27 8 240	1.94548 26	1.2954	0.7244 88	13.485 8	4.082	.0121	211
31	8.71	12 14 16	9 23 8 241	1.94574 26	1.2948	0.7332 84	13.493 8	4.085	.0121	224
Feb. 1	8.77	12 14 14	9 19 7 242	1.94600 26	1.2941	0.7416 82	13.501 8	4.088	.0121	238
2	8.83	12 14 11	9 15 5 242	1.94626 26	1.2935	0.7498 80	13.509 8	4.090	.0122	251
3	8.90	12 14 8	9 11 3 243	1.94652 25	1.2928	0.7578 76	13.517 8	4.093	.0122	265
4	8.97	12 14 6	9 7 0 244	1.94677 25	1.2922	0.7654 74	13.525 8	4.096	.0122	280
5	9.04	12 14 3	9 2 56 244	1.94702 24	1.2915	0.7728 71	13.533 8	4.099	.0122	295
6	9.10	12 14 1	8 58 52 244	1.94726 24	1.2909	0.7799 69	13.541 8	4.102	.0122	310
7	9.17	12 13 59	8 54 48 245	1.94750 24	1.2902	0.7868 66	13.549 8	4.104	.0123	326
8	9.23	12 13 56	8 50 43 245	1.94774 24	1.2896	0.7934 62	13.557 7	4.107	.0123	341
9	9.30	12 13 54	8 46 38 246	1.94798 23	1.2889	0.7996 63	13.564 7	4.110	.0123	356
10	9.36	12 13 52	8 42 32 247	1.94821 23	1.2882	0.8059 59	13.571 7	4.113	.0123	10
11	9.43	12 13 49	8 38 25 248	1.94844 22	1.2876	0.8118 57	13.578 7	4.115	.0123	24
12	9.50	12 13 47	8 34 17 249	1.94866 22	1.2869	0.8175 55	13.585 7	4.118	.0124	38
13	9.56	12 13 45	8 30 8 250	1.94888 22	1.2863	0.8230 53	13.592 7	4.120	.0124	51
14	9.63	12 13 43	8 25 58 250	1.94910 22	1.2856	0.8283 51	13.599 7	4.123	.0124	64
15	9.69	12 13 41	8 21 48 251	1.94932 21	1.2850	0.8334 48	13.606 7	4.126	.0124	76
16	9.77	12 13 39	8 17 37 251	1.94953 21	1.2844	0.8382 47	13.613 7	4.129	.0124	88
17	9.83	12 13 37	8 13 26 251	1.94974 21	1.2838	0.8429 45	13.620 7	4.131	.0124	100
18	9.89	12 13 35	8 9 15 251	1.94995 21	1.2832	0.8474 43	13.627 6	4.134	.0124	112
19	9.96	12 13 33	8 5 4 252	1.95016 20	1.2826	0.8517 42	13.633 6	4.137	.0124	124
20	10.02	12 13 31	8 0 52 253	1.95036 20	1.2820	0.8559 41	13.639 7	4.140	.0124	136
21	10.09	12 13 30	7 56 39 253	1.95056 19	1.2814	0.8600 39	13.646 6	4.142	.0125	148
22	10.15	12 13 28	7 52 26 254	1.95075 19	1.2809	0.8639 36	13.652 6	4.145	.0125	160
23	10.22	12 13 26	7 48 12 256	1.95094 19	1.2803	0.8675 35	13.658 6	4.148	.0125	172
24	10.29	12 13 25	7 43 56 256	1.95113 19	1.2798	0.8710 33	13.664 6	4.151	.0125	184
25	10.35	12 13 23	7 39 40 256	1.95132 19	1.2793	0.8743 32	13.670 6	4.154	.0125	196
26	10.42	12 13 22	7 35 25 255	1.95151 19	1.2788	0.8775 30	13.676 6	4.157	.0125	209
27	10.48	12 13 20	7 31 9 256	1.95170 18	1.2783	0.8805 28	13.682 6	4.159	.0126	221
28	10.55	12 13 19	7 26 53 256	1.95188 18	1.2778	0.8833 27	13.688 6	4.162	.0126	234
29	10.62	12 13 17	7 22 37	1.95206	1.2774	0.8860	— 13.694	— 4.164	.0126	247

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.		LOG g..		LOG. h.	LOG. i.		f.		t.	p.	☽
1864.	h.	h. m. s.	h. m. s.							s.		y.		°
March 1	10.69	12 13 16	7 18 20	257	1.95224	18	1.2770	0.8886	26	— 13.699	6	— 4.167	.0126	261
2	10.75	12 13 15	7 14 3	258	1.95242	18	1.2766	0.8910	22	13.705	6	4.170	.0126	275
3	10.82	12 13 15	7 9 45	258	1.95260	18	1.2762	0.8932	19	13.711	6	4.172	.0126	289
4	10.88	12 13 14	7 5 27	259	1.95278	17	1.2758	0.8953	20	13.717	5	4.175	.0127	304
5	10.95	12 13 13	7 1 8	260	1.95295	17	1.2755	0.8973	19	13.722	7	4.178	.0127	319
6	11.02	12 13 12	6 56 48	261	1.95312	17	1.2752	0.8992	17	13.729	6	4.181	.0127	334
7	11.08	12 13 12	6 52 27	260	1.95329	17	1.2749	0.9009	15	13.735	5	4.184	.0127	349
8	11.15	12 13 12	6 48 7	259	1.95346	17	1.2746	0.9024	14	13.740	6	4.186	.0128	4
9	11.21	12 13 11	6 43 48	259	1.95363	17	1.2743	0.9038	12	13.746	4	4.189	.0128	19
10	11.27	12 13 11	6 39 29	259	1.95380	17	1.2741	0.9050	12	13.750	4	4.192	.0128	33
11	11.34	12 13 11	6 35 10	260	1.95397	17	1.2739	0.9062	11	13.754	5	4.195	.0128	47
12	11.40	12 13 11	6 30 50	259	1.95414	17	1.2737	0.9073	9	13.759	5	4.197	.0128	60
13	11.47	12 13 10	6 26 31	259	1.95431	16	1.2735	0.9082	7	13.764	5	4.200	.0129	73
14	11.54	12 13 10	6 22 12	260	1.95447	16	1.2734	0.9089	5	13.769	5	4.202	.0129	85
15	11.60	12 13 11	6 17 52	260	1.95463	16	1.2733	0.9094	3	13.774	5	4.205	.0129	97
16	11.67	12 13 11	6 13 32	260	1.95479	16	1.2732	0.9097	3	13.780	6	4.208	.0129	109
17	11.73	12 13 11	6 9 12	260	1.95496	17	1.2732	0.9100	1	13.785	5	4.211	.0129	121
18	11.80	12 13 12	6 4 52	260	1.95512	16	1.2731	0.9101	1	13.790	5	4.213	.0129	133
19	11.86	12 13 13	6 0 32	260	1.95529	17	1.2731	0.9102	1	13.795	5	4.216	.0130	145
20	11.92	12 13 14	5 56 12	260	1.95545	16	1.2730	0.9103	0	13.800	6	4.219	.0130	157
21	11.99	12 13 15	5 51 52	259	1.95561	16	1.2731	0.9103	3	13.806	5	4.222	.0130	169
22	12.05	12 13 16	5 47 33	259	1.95577	16	1.2731	0.9100	4	13.811	5	4.224	.0130	181
23	12.12	12 13 17	5 43 14	258	1.95593	17	1.2732	0.9096	6	13.816	6	4.227	.0130	193
24	12.18	12 13 18	5 38 56	258	1.95610	17	1.2733	0.9090	7	13.822	5	4.230	.0131	205
25	12.24	12 13 19	5 34 38	258	1.95627	17	1.2735	0.9083	8	13.827	5	4.233	.0131	218
26	12.31	12 13 20	5 30 20	258	1.95644	16	1.2737	0.9075	10	13.832	5	4.236	.0131	231
27	12.38	12 13 21	5 26 2	257	1.95660	17	1.2739	0.9065	11	13.837	5	4.239	.0131	244
28	12.44	12 13 23	5 21 45	257	1.95677	17	1.2741	0.9054	12	13.842	6	4.241	.0131	257
29	12.51	12 13 24	5 17 28	256	1.95694	17	1.2743	0.9042	15	13.848	5	4.244	.0132	271
30	12.58	12 13 26	5 13 12	256	1.95711	17	1.2745	0.9027	13	13.853	5	4.247	.0132	285
31	12.64	12 13 28	5 8 56	255	1.95728	17	1.2748	0.9014	16	13.858	6	4.249	.0132	299
April 1	12.71	12 13 30	5 4 41	255	1.95745	17	1.2751	0.8998	17	13.864	5	4.252	.0132	313
2	12.77	12 13 32	5 0 26	254	1.95762	17	1.2754	0.8981	19	13.869	6	4.255	.0132	328
3	12.84	12 13 34	4 56 12	255	1.95779	18	1.2757	0.8962	21	13.875	5	4.258	.0132	343
4	12.90	12 13 36	4 51 57	253	1.95797	18	1.2761	0.8941	22	13.880	5	4.260	.0132	358
5	12.97	12 13 39	4 47 44	253	1.95815	18	1.2765	0.8919	23	13.885	6	4.263	.0132	12
6	13.04	12 13 41	4 43 31	252	1.95833	18	1.2769	0.8896	25	13.891	6	4.266	.0133	27
7	13.10	12 13 44	4 39 19	252	1.95851	18	1.2773	0.8871	26	13.897	6	4.268	.0133	41
8	13.17	12 13 46	4 35 7	252	1.95869	18	1.2777	0.8845	27	13.903	6	4.271	.0133	54
9	13.24	12 13 49	4 30 55	251	1.95887	19	1.2781	0.8818	28	13.909	5	4.274	.0133	68
10	13.30	12 13 51	4 26 44	250	1.95906	19	1.2786	0.8790	30	13.914	6	4.277	.0133	81
11	13.37	12 13 54	4 22 34	249	1.95925	19	1.2791	0.8760	31	13.920	6	4.279	.0133	93
12	13.43	12 13 56	4 18 25	248	1.95944	19	1.2796	0.8729	33	13.926	6	4.282	.0134	105
13	13.50	12 13 59	4 14 17	247	1.95963	19	1.2801	0.8696	35	13.932	6	4.285	.0134	117
14	13.57	12 14 1	4 10 10	246	1.95982	20	1.2806	0.8661	36	13.938	6	4.287	.0134	129
15	13.64	12 14 4	4 6 4	246	1.96002	20	1.2811	0.8625	37	13.944	6	4.290	.0134	141
16	13.70	12 14 7	4 1 58	245	1.96022	20	1.2817	0.8588	39	13.950	6	4.293	.0134	153
17	13.77	12 14 10	3 57 53	245	1.96042	20	1.2822	0.8549	41	13.956	6	4.296	.0134	165
18	13.83	12 14 13	3 53 48	244	1.96062	20	1.2828	0.8508	43	13.962	6	4.298	.0134	177
19	13.90	12 14 16	3 49 44	244	1.96082	21	1.2833	0.8465	44	13.968	7	4.300	.0134	189
20	13.96	12 14 19	3 45 40	242	1.96103	21	1.2839	0.8421	46	13.975	6	4.303	.0134	202
21	14.03	12 14 22	3 41 38	241	1.96124	21	1.2845	0.8375	48	13.981	7	4.306	.0135	215
22	14.10	12 14 25	3 37 37	240	1.96145	21	1.2851	0.8327	50	13.988	7	4.309	.0135	227
23	14.16	12 14 28	3 33 37	239	1.96166	22	1.2857	0.8277	51	13.995	7	4.312	.0135	241
24	14.23	13 14 32	3 29 38	238	1.96188	22	1.2863	0.8226	52	14.002	7	4.315	.0135	254
25	14.29	12 14 35	3 25 40	238	1.96210	22	1.2869	0.8174	52	14.009	7	4.318	.0135	268
26	14.36	12 14 38	3 21 42	237	1.96232	22	1.2875	0.8120	54	14.016	7	4.320	.0135	282
27	14.42	12 14 41	3 17 45	237	1.96254	23	1.2881	0.8063	57	14.023	7	4.323	.0136	296
28	14.49	12 14 44	3 13 48	236	1.96277	23	1.2887	0.8004	59	14.030	7	4.325	.0136	310
29	14.56	12 14 48	3 9 52	236	1.96300	23	1.2894	0.7943	61	14.037	7	4.328	.0136	324
30	14.62	12 14 51	3 5 56	235	1.96323	23	1.2900	0.7880	63	— 14.045	8	— 4.331	.0136	338

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.	LOG. *g*.	LOG. *h*.	LOG. *i*.	*f*.	*t*.	*p*.	D
1864.	h.	h. m. s.	h. m. s.				s.	y.		°
May 1	14.69	12 14 54	3 2 1 234	1.96347 24	1.2906	0.7814 66	— 14.052 7	— 4.334	.0136	353
2	14.75	12 14 57	2 58 7 233	1.96371 24	1.2912	0.7746 68	14.059 8	4.336	.0136	7
3	14.82	12 15 0	2 54 14 232	1.96395 24	1.2918	0.7676 70	14.067 8	4.339	.0136	21
4	14.88	12 15 4	2 50 22 230	1.96419 25	1.2925	0.7604 72	14.075 8	4.342	.0137	35
5	14.95	12 15 7	2 46 32 230	1.96444 25	1.2932	0.7531 73	14.083 8	4.345	.0137	49
6	15.01	12 15 10	2 42 42 230	1.96469 25	1.2938	0.7455 76	14.091 8	4.348	.0137	62
7	15.08	12 15 14	2 38 53 229	1.96494 25	1.2945	0.7376 79	14.099 8	4.351	.0137	75
8	15.14	12 15 17	2 35 4 229	1.96519 25	1.2951	0.7294 82	14.107 8	4.353	.0137	88
9	15.21	12 15 20	2 31 16 228	1.96544 26	1.2958	0.7208 86	14.115 8	4.355	.0138	101
10	15.28	12 15 23	2 27 28 228	1.96570 26	1.2964	0.7119 89 91	14.123 8	4.358	.0138	113
11	15.34	12 15 27	2 23 41 226	1.96596 26	1.2970	0.7028 95	14.131 8	4.361	.0138	125
12	15.41	12 15 30	2 19 55 225	1.96622 26	1.2976	0.6933 98	14.139 8	4.364	.0138	137
13	15.47	12 15 33	2 16 10 224	1.96648 27	1.2982	0.6835 100	14.147 9	4.367	.0139	149
14	15.54	12 15 36	2 12 26 222	1.96675 27	1.2988	0.6735 104	14.156 8	4.370	.0139	161
15	15.61	12 15 39	2 8 44 222	1.96702 27	1.2994	0.6631 109	14.164 8	4.373	.0139	173
16	15.67	12 15 42	2 5 2 222	1.96729 27	1.2999	0.6522 113	14.172 9	4.375	.0139	185
17	15.74	12 15 44	2 1 20 222	1.96756 27	1.3005	0.6409 117	14.181 9	4.378	.0139	197
18	15.80	12 15 47	1 57 38 221	1.96783 28	1.3011	0.6292 119	14.190 9	4.381	.0140	210
19	15.87	12 15 50	1 53 57 221	1.96811 28	1.3016	0.6173 125	14.199 9	4.383	.0140	223
20	15.94	12 15 53	1 50 16 220	1.96839 28	1.3020	0.6048 130	14.208 9	4.386	.0140	236
21	16.01	12 15 55	1 46 36 219	1.96867 28	1.3025	0.5918 135	14.217 9	4.389	.0140	250
22	16.07	12 15 58	1 42 57 218	1.96895 29	1.3030	0.5783 141	14.226 9	4.391	.0140	264
23	16.14	12 16 0	1 39 19 218	1.96924 29	1.3035	0.5642 147	14.235 9	4.394	.0141	278
24	16.20	12 16 3	1 35 41 217	1.96953 29	1.3039	0.5495 156	14.244 10	4.397	.0141	292
25	16.27	12 16 6	1 32 4 217	1.96982 29	1.3044	0.5339 160	14.254 9	4.400	.0141	307
26	16.33	12 16 8	1 28 27 216	1.97011 29	1.3049	0.5179 168	14.263 10	4.403	.0141	321
27	16.40	12 16 11	1 24 51 216	1.97040 29	1.3053	0.5011 177	14.273 10	4.405	.0141	335
28	16.46	12 16 13	1 21 15 216	1.97069 29	1.3058	0.4834 183	14.283 9	4.408	.0142	349
29	16.53	12 16 15	1 17 39 215	1.97099 30	1.3062	0.4651 194	14.292 9	4.411	.0142	4
30	16.60	12 16 17	1 14 4 215	1.97129 30	1.3065	0.4457 207	14.301 10	4.414	.0142	17
31	16.66	12 16 19	1 10 29 215	1.97159 30	1.3069	0.4250 215	14.311 9	4.416	.0142	31
June 1	16.73	12 16 21	1 6 54 214	1.97189 30	1.3072	0.4035 229	14.320 10	4.419	.0142	44
2	16.80	12 16 23	1 3 20 214	1.97219 30	1.3075	0.3806 242	14.330 10	4.422	.0143	58
3	16.86	12 16 24	0 59 46 214	1.97249 30	1.3078	0.3564 255	14.340 10	4.425	.0143	71
4	16.92	12 16 26	0 56 12 213	1.97279 30	1.3082	0.3309 277	14.350 10	4.427	.0143	84
5	16.99	12 16 27	0 52 49 212	1.97309 30	1.3085	0.3032 295	14.360 10	4.429	.0143	96
6	17.05	12 16 29	0 49 17 212	1.97339 30	1.3088	0.2737 319	14.370 10	4.432	.0143	109
7	17.12	12 16 30	0 45 45 212	1.97369 30	1.3090	0.2418 342	14.380 10	4.435	.0144	121
8	17.18	12 16 31	0 42 13 212	1.97399 30	1.3092	0.2076 373	14.390 10	4.438	.0144	133
9	17.25	12 16 33	0 38 32 211	1.97429 31	1.3094	0.1703 413	14.400 10	4.441	.0144	145
10	17.31	12 16 34	0 35 0 211	1.97460 30	1.3096	0.1290 455	14.410 10	4.444	.0144	157
11	17.38	12 16 35	0 31 29 211	1.97490 31	1.3098	0.0835 509	14.420 10	4.447	.0144	169
12	17.44	12 16 36	0 27 58 211	1.97521 30	1.3100	0.0326 581	14.430 10	4.450	.0145	181
13	17.51	12 16 37	0 24 27 211	1.97551 31	1.3101	9.9745 664	14.440 10	4.453	.0145	193
14	17.58	12 16 38	0 20 56 211	1.97582 30	1.3102	9.9081 794	14.450 10	4.456	.0145	205
15	17.64	12 16 38	0 17 25 210	1.97612 31	1.3103	9.8287 971	14.460 11	4.458	.0145	218
16	17.71	12 16 39	0 13 55 210	1.97643 30	1.3104	9.7316 1252	14.471 10	4.461	.0145	231
17	17.77	12 16 39	0 10 25 209	1.97673 31	1.3105	9.6064 1766	14.481 10	4.464	.0146	245
18	17.84	12 16 39	0 6 56 208	1.97704 31	1.3106	9.4298 3059	14.491 10	4.466	.0146	259
19	17.91	12 16 40	0 3 28 209	1.97735 30	1.3106	9.1239	14.501 11	4.469	.0146	273
20	17.97	12 16 40	23 59 59 210	1.97765 31	1.3106	*n* 7.3010	14.512 10	4.471	.0146	287
21	18.04	12 16 40	23 56 29 211	1.97796 30	1.3106	9.1367 2995	14.522 10	4.474	.0146	302
22	18.10	12 16 41	23 52 58 211	1.97826 31	1.3106	9.4362 1755	14.532 10	4.477	.0147	317
23	18.17	12 16 41	23 49 27 211	1.97857 30	1.3105	9.6117 1239	14.542 10	4.479	.0147	331
24	18.24	12 16 41	23 45 56 210	1.97887 30	1.3105	9.7356 963	14.552 10	4.481	.0147	346
25	18.30	12 16 40	23 42 26 211	1.97917 30	1.3104	9.8319 782	14.562 10	4.484	.0147	0
26	18.37	12 16 40	23 38 55 210	1.97947 30	1.3103	9.9101 662	14.572 10	4.487	.0147	14
27	18.44	12 16 40	23 35 25 211	1.97977 30	1.3102	9.9763 579	14.582 10	4.490	.0148	28
28	18.50	12 16 39	23 31 54 210	1.98007 30	1.3100	0.0342 508	14.592 10	4.493	.0148	41
29	18.57	12 16 39	23 28 24 210	1.98037 30	1.3098	0.0850 450	14.602 10	4.496	.0148	54
30	18.63	12 16 38	23 24 54	1.98067	1.3096	*n* 0.1300	14.612	— 4.498	.0148	67

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.	LOG. *g*.	LOG. *h*.	LOG. *i*.	*f*.	*t*.	*p*.	D
1864.	h.	h. m. s.	h. m. s.				s.	y.		°
July 1	18.70	12 16 38	23 21 23 211	1.98097 30	1.3094	*n* 0.1708 408	— 14.622 10	— 4.501	.0148	80
2	18.76	12 16 37	23 17 52 212	1.98127 29	1.3092	0.2082 374	14.632 10	4.503	.0148	93
3	18.83	12 16 36	23 14 20 212	1.98156 29	1.3090	0.2425 343	14.642 10	4.506	.0148	105
4	18.89	12 16 35	23 10 48 211	1.98185 29	1.3087	0.2743 318	14.652 10	4.509	.0149	117
5	18.96	12 16 34	23 7 17 212	1.98214 29	1.3084	0.3034 291	14.662 10	4.512	.0149	129
6	19.02	12 16 33	23 3 45 212	1.98243 29	1.3081	0.3304 270	14.672 10	4.515	.0149	141
7	19.09	12 16 32	23 0 13 212	1.98272 28	1.3078	0.3562 258	14.682 10	4.518	.0149	153
8	19.15	12 16 31	22 56 41 213	1.98300 28	1.3075	0.3806 244	14.692 9	4.520	.0149	165
9	19.22	12 16 30	22 53 8 213	1.98328 28	1.3072	0.4036 230	14.701 10	4.523	.0150	177
10	19.29	12 16 28	22 49 35 214	1.98356 28	1.3069	0.4250 214 203	14.711 10	4.526	.0150	189
11	19.35	12 16 27	22 46 1 214	1.98384 28	1.3065	0.4453 193	14.721 9	4.528	.0150	201
12	19.42	12 16 25	22 42 27 215	1.98412 28	1.3061	0.4646 184	14.730 9	4.531	.0150	213
13	19.49	12 16 24	22 38 52 216	1.98440 27	1.3057	0.4830 177	14.739 9	4.534	.0150	226
14	19.55	12 16 22	22 35 16 215	1.98467 27	1.3053	0.5007 166	14.748 10	4.537	.0151	239
15	19.62	12 16 20	22 31 41 216	1.98494 27	1.3049	0.5173 159	14.758 9	4.540	.0151	253
16	19.69	12 16 19	22 28 5 216	1.98521 27	1.3045	0.5332 152	14.767 9	4.542	.0151	267
17	19 75	12 16 17	22 24 29 216	1.98548 27	1.3040	0.5484 147	14.776 9	4.545	.0151	281
18	19 82	12 16 16	22 20 53 217	1.98574 26	1.3035	0.5631 143	14.785 9	4.548	.0151	296
19	19 88	12 16 14	22 17 16 218	1.98600 26	1.3030	0.5774 135	14.794 9	4.551	.0152	311
20	19 95	12 16 12	22 13 38 218	1.98626 26	1.3025	0.5909 130	14.803 9	4.553	.0152	326
21	20 01	12 16 10	22 10 0 219	1.98652 26	1.3020	0.6039 125	14.812 9	4.556	.0152	341
22	20.08	12 16 8	22 6 21 220	1.98678 25	1.3015	0.6164 120	14.821 9	4.558	.0152	356
23	20.15	12 16 6	22 2 41 221	1.98703 25	1.3010	0.6284 117	14.830 9	4.561	.0152	10
24	20.21	12 16 4	21 59 0 221	1.98728 25	1.3004	0.6401 110	14.839 9	4.564	.0152	24
25	20.28	12 16 2	21 55 19 222	1.98753 25	1.2999	0.6511 108	14.848 9	4.567	.0153	38
26	20.34	12 16 0	21 51 37 222	1.98778 24	1.2993	0.6619 104	14.857 9	4.569	.0153	51
27	20.41	12 15 58	21 47 55 223	1.98802 24	1.2988	0.6723 102	14.865 8	4.571	.0153	64
28	20.48	12 15 56	21 44 12 224	1.98826 24	1.2982	0.6825 98	14.873 8	4.574	.0153	77
29	20.54	12 15 54	21 40 28 224	1.98850 24	1.2976	0.6923 94	14.881 8	4.577	.0153	90
30	20.61	12 15 52	21 36 44 224	1.98874 23	1.2970	0.7017 91	14.890 9	4.580	.0154	102
31	20.67	12 15 49	21 33 0 225	1.98897 23	1.2964	0.7108 88	14.898 8	4.583	.0154	114
August 1	20.74	12 15 47	21 29 15 225	1.98920 23	1.2958	0.7196 85	14.906 8	4.586	.0154	126
2	20.80	12 15 45	21 25 30 226	1.98943 23	1.2952	0.7281 81	14.914 8	4.589	.0154	138
3	20.87	12 15 43	21 21 44 227	1.98966 22	1.2946	0.7362 78	14.922 8	4.592	.0154	150
4	20.93	12 15 41	21 17 57 228	1.98988 22	1.2940	0.7440 74	14.930 8	4.594	.0155	161
5	21.00	12 15 38	21 14 9 229	1.99010 22	1.2933	0.7514 74	14.938 7	4.597	.0155	174
6	21.06	12 15 36	21 10 20 229	1.99032 22	1.2927	0.7588 73	14.945 8	4.599	.0155	186
7	21.13	12 15 34	21 6 31 231	1.99054 21	1.2921	0.7661 71	14.953 7	4.602	.0155	198
8	21.19	12 15 32	21 2 40 231	1.99075 21	1.2915	0.7732 68	14.960 8	4.605	.0156	210
9	21.26	12 15 30	20 58 49 232	1.99096 20	1.2909	0.7800 64	14.968 7	4.608	.0156	222
10	21.33	12 15 27	20 54 57 233	1.99116 20	1.2902	0.7864 63	14.975 8	4.610	.0156	234
11	21.39	12 15 25	20 51 4 233	1.99136 20	1.2896	0.7927 61	14.983 7	4.613	.0156	247
12	21.46	12 15 23	20 47 11 235	1.99156 20	1.2889	0.7988 60	14.990 7	4.616	.0156	261
13	21.52	12 15 21	20 43 16 235	1.99176 20	1.2883	0.8048 57	14.997 7	4.619	.0156	275
14	21.59	12 15 19	20 39 21 236	1.99196 20	1.2877	0.8105 55	15.004 7	4.621	.0156	290
15	21.66	12 15 17	20 35 25 236	1.99216 19	1.2871	0.8160 52	15.011 7	4.624	.0156	304
16	21.72	12 15 15	20 31 29 236	1.99235 19	1.2865	0.8212 50	15.018 6	4.627	.0156	319
17	21.79	12 15 13	20 27 33 237	1.99254 19	1.2859	0.8262 51	15.024 6	4.630	.0157	335
18	21.85	12 15 11	20 23 36 237	1.99273 18	1.2853	0.8313 48	15.030 7	4.633	.0157	350
19	21.92	12 15 9	20 19 39 239	1.99291 18	1.2847	0.8361 45	15.037 6	4.635	.0157	5
20	21.98	12 15 7	20 15 40 241	1.99309 18	1.2841	0.8406 43	15.043 6	4.638	.0157	20
21	22.05	12 15 6	20 11 39 241	1.99327 18	1.2835	0.8449 43	15.049 7	4.641	.0157	34
22	22.12	12 15 4	20 7 38 242	1.99345 18	1.2829	0.8492 42	15.056 6	4.643	.0157	48
23	22.18	12 15 2	20 3 36 243	1.99363 17	1.2824	0.8534 39	15.062 6	4.645	.0158	61
24	22.25	12 15 0	19 59 33 244	1.99380 17	1.2818	0.8573 38	15.068 6	4.648	.0158	74
25	22.31	12 14 59	19 55 29 244	1.99397 17	1.2812	0.8611 36	15.074 6	4.650	.0158	87
26	22.38	12 14 57	19 51 25 244	1.99414 17	1.2807	0.8647 34	15.080 6	4.653	.0158	99
27	22.44	12 14 55	19 47 21 245	1.99431 17	1.2802	0.8681 34	15.086 6	4.656	.0158	111
28	22.51	12 14 54	19 43 16 245	1.99448 17	1.2797	0.8715 32	15.092 6	4.659	.0158	123
29	22.58	12 14 52	19 39 11 246	1.99465 16	1.2792	0.8747 30	15.098 6	4.662	.0159	135
30	22.64	12 14 51	19 35 5 247	1.99481 16	1.2787	0.8777 29	15.104 6	4.665	.0159	147
31	22.71	12 14 50	19 30 58	1.99497 16	1.2782	*n* 0.8806	— 15.110	— 4.668	.0159	159

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.	LOG. *g*.	LOG. *h*.	LOG. *i*.	*f*.	*t*.	*p*.	D
1864.	h.	h. m. s.	h. m. s.				s.	y.		°
Sept. 1	22.77	12 14 49	19 26 50 248	1.99513	1.2778	*n* 0.8834 28	— 15.116 5	— 4.671	.0159	171
2	22.84	12 14 48	19 22 40 250	1.99529	1.2774	0.8860 26	15.121 6	4.674	.0159	183
3	22.90	12 14 47	19 18 30 250	1.99545	1.2770	0.8885 25	15.127 6	4.676	.0159	195
4	22.97	12 14 46	19 14 19 251	1.99561	1.2766	0.8908 23	15.133 5	4.679	.0160	207
5	23.04	12 14 45	19 10 9 250	1.99576	1.2762	0.8930 22	15.138 5	4.682	.0160	219
6	23.10	12 14 44	19 5 59 250	1.99591	1.2759	0.8951 21	15.143 5	4.684	.0160	231
7	23.17	12 14 43	19 1 48 251	1.99606	1.2756	0.8970 19	15.148 5	4.687	.0160	244
8	23.24	12 14 43	18 57 36 252	1.99621	1.2753	0.8988 18	15.154 6	4.690	.0161	257
9	23.30	12 14 42	18 53 24 252	1.99636	1.2750	0.9005 17	15.159 5	4.692	.0161	270
10	23.36	12 14 42	18 49 11 253	1.99651	1.2747	0.9021 16	15.164 5	4.695	.0161	284
11	23.42	12 14 42	18 44 58 253	1.99666	1.2744	0.9035 14	15.169 5	4.698	.0161	298
12	23.48	12 14 41	18 40 44 254	1.99680	1.2742	0.9047 12	15.174 5	4.701	.0161	313
13	23.55	12 14 41	18 36 30 254	1.99695	1.2740	0.9059 12	15.179 5	4.704	.0162	328
14	23.62	12 14 41	18 32 16 254	1.99709	1.2738	0.9070 11	15.184 5	4.706	.0162	343
15	23.69	12 14 40	18 28 2 254	1.99724	1.2736	0.9079 9	15.190 6	4.709	.0162	358
16	23.75	12 14 40	18 23 47 255	1.99738	1.2735	0.9086 7	15.195 5	4.712	.0162	13
17	23.82	12 14 40	18 19 32 255	1.99752	1.2734	0.9092 6	15.200 5	4.715	.0162	28
18	23.89	12 14 40	18 15 17 255	1.99766	1.2733	0.9097 5	15.205 5	4.717	.0163	42
19	23.96	12 14 41	18 11 2 255	1.99781	1.2732	0.9101 4	15.210 5	4.720	.0163	57
20	0.02	12 14 41	18 6 46 256	1.99796	1.2731	0.9104 3	15.215 5	4.722	.0163	70
			257			2				
21	0.09	12 14 42	18 2 19 257	1.99811	1.2731	0.9106 0	15.220 5	4.725	.0163	84
22	0.15	12 14 42	17 58 12 256	1.99826	1.2731	0.9106 2	15.225 5	4.728	.0163	96
23	0.22	12 14 43	17 53 56 257	1.99840	1.2731	0.9104 3	15.230 5	4.731	.0164	108
24	0.29	12 14 43	17 49 39 257	1.99855	1.2732	0.9101 4	15.235 5	4.733	.0164	120
25	0.35	12 14 44	17 45 22 257	1.99869	1.2733	0.9097 4	15.240 5	4.736	.0164	132
26	0.42	12 14 45	17 41 5 257	1.99884	1.2734	0.9093 6	15.245 5	4.739	.0164	144
27	0.49	12 14 46	17 36 48 256	1.99899	1.2735	0.9087 7	15.250 5	4.742	.0164	156
28	0.56	12 14 47	17 32 32 257	1.99913	1.2736	0.9080 9	15.255 5	4.744	.0165	168
29	0.62	12 14 48	17 28 15 257	1.99928	1.2738	0.9071 10	15.260 5	4.747	.0165	180
30	0.68	12 14 49	17 23 58 557	1.99942	1.2740	0.9061 12	15.265 5	4.750	.0165	192
Oct. 1	0.75	12 14 51	17 19 41 257	1.99957	1.2742	0.9049 13	15.270 5	4.753	.0165	204
2	0.81	12 14 52	17 15 24 257	1.99972	1.2744	0.9036 14	15.275 5	4.756	.0165	216
3	0.88	12 14 53	17 11 7 256	1.99987	1.2747	0.9022 15	15.280 5	4.758	.0166	228
4	0.94	12 14 54	17 6 51 256	2.00002	1.2750	0.9007 17	15.285 5	4.761	.0166	241
5	1.01	12 14 56	17 2 35 256	2.00017	1.2753	0.8990 19	15.291 6	4.764	.0166	253
6	1.07	12 14 58	16 58 19 256	2.00032	1.2756	0.8971 20	15.297 6	4.767	.0166	266
7	1.14	12 15 0	16 54 4 255	2.00048	1.2759	0.8951 21	15.302 5	4.770	.0166	280
8	1.20	12 15 2	16 49 49 255	2.00064	1.2763	0.8930 22	15.308 6	4.772	.0167	294
9	1.27	12 15 4	16 45 34 255	2.00080	1.2767	0.8908 23	15.313 5	4.775	.0167	308
10	1.34	12 15 6	16 41 20 254	2.00096	1.2771	0.8885 26	15.319 6	4.778	.0167	322
			254							
11	1.40	12 15 8	16 37 6 254	2.00112	1.2775	0.8859 27	15.325 5	4.780	.0167	337
12	1.47	12 15 10	16 32 52 253	2.00129	1.2779	0.8832 28	15.330 6	4.783	.0167	352
13	1.53	12 15 12	16 28 39 253	2.00145	1.2783	0.8804 30	15.336 5	4.785	.0168	7
14	1.60	12 15 15	16 24 26 253	2.00162	1.2788	0.8774 31	15.341 6	4.788	.0168	22
15	1.67	12 15 17	16 20 13 253	2.00179	1.2793	0.8743 33	15.347 5	4.791	.0168	37
16	1.73	12 15 19	16 16 0 252	2.00196	1.2798	0.8710 35	15.352 6	4.794	.0168	51
17	1.80	12 15 22	16 11 48 251	2.00214	1.2803	0.8675 36	15.358 6	4.797	.0168	65
18	1.86	12 15 25	16 7 37 250	2.00232	1.2808	0.8639 38	15.364 6	4.800	.0168	79
19	1.93	12 15 27	16 3 27 250	2.00250	1.2814	0.8601 39	15.370 6	4.802	.0168	92
20	1.99	12 15 29	15 59 17 249	2.00268	1.2820	0.8562 41	15.376 7	4.805	.0169	104
21	2.06	12 15 32	15 55 8 248	2.00286	1.2826	0.8521 43	15.383 6	4.808	.0169	113
22	2.12	12 15 34	15 51 0 249	2.00304	1.2832	0.8478 45	15.389 7	4.811	.0169	129
23	2.19	12 15 37	15 46 51 248	2.00323	1.2838	0.8433 47	15.396 6	4.813	.0169	141
24	2.25	12 15 39	15 42 43 248	2.00342	1.2844	0.8386 49	15.402 7	4.816	.0169	152
25	2.32	12 15 42	15 38 35 248	2.00361	1.2850	0.8337 50	15.409 6	4.819	.0169	164
26	2.38	12 15 45	15 34 27 247	2.00380	1.2856	0.8287 51	15.415 7	4.821	.0169	176
27	2.45	12 15 48	15 30 20 246	2.00399	1.2862	0.8236 54	15.422 7	4.824	.0170	188
28	2.51	12 15 50	15 26 14 245	2.00419	1.2868	0.8182 56	15.429 7	4.827	.0170	200
29	2.58	12 15 53	15 22 9 245	2.00439	1.2874	0.8126 58	15.436 7	4.829	.0170	212
30	2.65	12 15 56	15 18 4 245	2.00459	1.2880	0.8068 61	15.443 7	4.832	.0170	225
31	2.71	12 15 59	15 13 59 245	2.00480	1.2887	*n* 0.8007	— 15.450 7	— 4.835		238

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.	LOG. *g*.	LOG. *h*.	LOG. *i*.	*f*.	*t*.	*p*.	D
1864.	h.	h. m. s.	h. m. s.				s.	y.		°
Nov. 1	2.78	12 16 2	15 9 56 242	2.00501	1.2894	*n* 0.7944 63	— 15.458 7	— 4.838	.0170	251
2	2.84	12 16 5	15 5 54 242	2.00523	1.2900	0.7879 65	15.465 7	4.841	.0170	264
3	2.91	12 16 8	15 1 52 241	2.00545	1.2907	0.7811 68	15.472 8	4.844	.0171	277
4	2.98	12 16 11	14 57 51 242	2.00567	1.2914	0.7741 70	15.480 8	4.846	.0171	291
5	3.05	12 16 14	14 53 49 242	2.00589	1.2920	0.7669 72	15.488 8	4.849	.0171	304
6	3.11	12 16 17	14 49 48 240	2.00611	1.2927	0.7594 75	15.496 7	4.852	.0171	318
7	3.18	12 16 19	14 45 48 239	2.00634	1.2933	0.7517 77	15.503 8	4.854	.0171	333
8	3.24	12 16 22	14 41 49 239	2.00657	1.2940	0.7437 80	15.511 8	4.857	.0171	347
9	3.31	12 16 25	14 37 50 239	2.00680	1.2947	0.7353 84	15.519 8	4.859	.0172	1
10	3.37	12 16 28	14 33 51 239	2.00703	1.2953	0.7266 87	15.527 8	4.862	.0172	16
11	3.44	12 16 31	14 29 52 238	2.00727	1.2960	0.7176 90	15.535 8	4.865	.0172	30
12	3.51	12 16 33	14 25 54 237	2.00751	1.2966	0.7083 93	15.543 8	4.867	.0172	45
13	3.57	12 16 36	14 21 57 236	2.00775	1.2972	0.6986 97	15.551 9	4.870	.0173	59
14	3.63	12 16 39	14 18 1 235	2.00799	1.2978	0.6886 100	15.560 9	4.873	.0173	73
15	3.70	12 16 42	14 14 6 234	2.00823	1.2984	0.6782 104	15.569 9	4.876	.0173	86
16	3.76	12 16 45	14 10 12 234	2.00848	1.2990	0.6674 108	15.578 8	4.879	.0173	99
17	3.83	12 16 47	14 6 18 233	2.00873	1.2996	0.6561 113	15.586 9	4.881	.0173	112
18	3.90	12 16 50	14 2 25 232	2.00898	1.3002	0.6444 117	15.595 9	4.884	.0173	125
19	3.96	12 16 52	13 58 33 233	2.00923	1.3008	0.6323 121	15.604 9	4.887	.0174	137
20	4.03	12 16 55	13 54 40 232	2.00948	1.3014	0.6197 126 129	15.613 9	4.890	.0174	149
21	4.10	12 16 57	13 50 48 231	2.00974	1.3019	0.6068 134	15.622 9	4.893	.0174	161
22	4.16	12 17 0	13 46 57 231	2.01000	1.3025	0.5934 142	15.631 9	4.895	.0174	173
23	4.23	12 17 2	13 43 6 230	2.01026	1.3030	0.5792 148	15.640 9	4.898	.0175	185
24	4.30	12 17 4	13 39 16 230	2.01053	1.3035	0.5644 157	15.649 10	4.900	.0175	196
25	4.36	12 17 6	13 35 26 230	2.01080	1.3040	0.5487 167	15.659 10	4.903	.0175	208
26	4.43	12 17 8	13 31 36 229	2.01107	1.3045	0.5320 171	15.669 9	4.906	.0175	221
27	4.49	12 17 10	13 27 37 229	2.01134	1.3050	0.5149 178	15.678 10	4.909	.0175	234
28	4.55	12 17 12	13 23 58 229	2.01161	1.3055	0.4971 188	15.688 10	4.911	.0176	247
29	4.62	12 17 14	13 20 9 229	2.01189	1.3059	0.4783 198	15.698 10	4.914	.0176	260
30	4.69	12 17 16	13 16 20 228	2.01216	1.3063	0.4585 211	15.708 10	4.917	.0176	273
Dec. 1	4.75	12 17 18	13 12 32 228	2.01244	1.3067	0.4374 223	15.718 10	4.920	.0176	287
2	4.82	12 17 20	13 8 44 227	2.01272	1.3071	0.4151 236	15.728 10	4.923	.0176	301
3	4.89	12 17 21	13 4 57 226	2.01300	1.3075	0.3915 251	15.738 10	4.925	.0177	315
4	4.95	12 17 23	13 1 11 226	2.01328	1.3078	0.3664 266	15.748 10	4.927	.0177	329
5	5.02	12 17 24	12 57 25 225	2.01356	1.3081	0.3398 285	15.758 10	4.930	.0177	343
6	5.08	12 17 25	12 53 40 226	2.01384	1.3084	0.3113 307	15.768 10	4.933	.0177	358
7	5.15	12 17 27	12 49 54 226	2.01412	1.3087	0.2806 334	15.778 10	4.936	.0177	12
8	5.21	12 17 28	12 46 8 226	2.01440	1.3090	0.2472 364	15.788 11	4.939	.0178	26
9	5.28	12 17 29	12 42 22 225	2.01469	1.3092	0.2108 394	15.799 10	4.942	.0178	40
10	5.35	12 17 30	12 38 37 225	2.01498	1.3094	0.1714 437	15.809 10	4.945	.0178	54
11	5.41	12 17 31	12 34 52 224	2.01527	1.3096	0.1277 485	15.819 10	4.948	.0178	68
12	5.48	12 17 31	12 31 8 224	2.01555	1.3098	0.0792 551	15.829 11	4.950	.0178	81
13	5.55	12 17 32	12 27 24 224	2.01584	1.3100	0.0241 636	15.840 10	4.953	.0179	94
14	5.61	12 17 33	12 23 40 224	2.01613	1.3102	9.9605 746	15.850 11	4.955	.0179	107
15	5.67	12 17 33	12 19 56 224	2.01642	1.3103	9.8859 900	15.861 10	4.958	.0179	120
16	5.74	12 17 34	12 16 12 225	2.01671	1.3104	9.7959 1147	15.871 11	4.961	.0179	132
17	5.80	12 17 34	12 12 27 224	2.01699	1.3105	9.6812 1562	15.882 10	4.964	.0179	145
18	5.87	12 17 34	12 8 43 225	2.01728	1.3105	9.5250 2485	15.892 11	4.967	.0179	157
19	5.94	12 17 35	12 4 58 225	2.01758	1.3106	9.2765	15.903 10	4.970	.0180	169
20	6.00	12 17 35	12 1 13 225	2.01785	1.3106	*n* 8.6335	15.913 11	4.973	.0180	181
21	6.07	12 17 35	11 57 28 224	2.01814	1.3106	8.9912	15.924 10	4.975	.0180	192
22	6.14	12 17 34	11 53 44 225	2.01843	1.3105	9.3856 2032	15.934 11	4.978	.0180	204
23	6.20	12 17 34	11 49 59 225	2.01871	1.3105	9.5888 1371	15.945 10	4.981	.0181	216
24	6.27	12 17 34	11 46 14 225	2.01900	1.3104	9.7259 1040	15.955 11	4.983	.0181	229
25	6.33	12 17 33	11 42 29 225	2.01929	1.3103	9.8299 839	15.966 11	4.986	.0181	242
26	6.40	12 17 33	11 38 44 224	2.01958	1.3102	9.9138 703	15.977 10	4.989	.0181	255
27	6.46	12 17 32	11 35 0 225	2.01987	1.3101	9.9841 604	15.987 11	4.991	.0181	269
28	6.53	12 17 32	11 31 15 225	2.02015	1.3099	0.0445 528	15.998 11	4.994	.0182	283
29	6.59	12 17 31	11 27 30 225	2.02043	1.3097	0.0973 470	16.009 11	4.997	.0182	297
30	6.66	12 17 31	11 23 45 225	2.02071	1.3095	0.1443 423	16.019 10	4.999	.0182	311
31	6.72	12 17 30	11 20 0 225	2.02099	1.3093	0.1866	— 16.029 10	— 5.002	.0182	326

CATALOGUE

OF

STARS OBSERVED

IN THE

YEAR 1864.

U. S. NAVAL OBSERVATORY.

CATALOGUE OF STARS OBSERVED IN THE YEAR 1864.

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1	Anonymous		0 0 2.43	1	+ 3.071	— 23 52		+ 20.06	
2	*a* Andromedæ		0 1 9.45	25	3.075	+ 28 19 2.8	4	20.06	
3	Weisse 1267	7.7	0 1 41.78	1	3.072	— 0 5 12.6	3	20.06	
4	*β* Cassiopeæ		0 1 42		3.087	+ 58 22 37.9	1	20.06	
5	B. A. C. 12		0 2 44.92	1	3.071	— 3 20		20.05	
6	Anonymous	8.5	0 4 13.02	2	3.056	33 33		20.05	
7	Weisse 71	9.0	0 4 49.10	1	3.072	— 1 0		20.05	
8	*γ* Pegasi		0 6 1.78	6	3.081	+ 14 24 19.1	4	20.05	
9	O. Arg. S. 65	7.0	0 6 37.55	3	3.055	— 23 58		20.05	
10	Lacaille 17		0 7 48.64	1	3.042	32 56		20.04	
11	Lacaille 26	7.5	0 9 28.58	4	3.035	33 32		20.04	
12	Anonymous		0 9 37		3.072	0 0 21.4	2	20.04	
13	B. A. C. 49	7.0	0 9 38.93	4	3.034	33 28		20.04	
14	Anonymous	7.6	0 10 50		3.072	0 9 41.4	3	20.03	
15	B. A. C. 59	5.7	0 11 16.91	1	3.022	37 16		20.03	
16	*ι* Ceti		0 12 18		3.060	9 36 0.3	2	20.03	
17	Lacaille 46	7.0	0 13 9.37	1	3.015	26 40		20.02	
18	Anonymous	7.9	0 13 14.38	2	3.021	— 33 31		20.02	
19	*d* Piscium		0 13 23.82	3	3.082	+ 7 25		20.02	
20	Lacaille 48	7.2	0 13 45		3.036	— 24 24 26.1	2	20.02	
21	Lacaille 52	6.3	0 14 14.98	2	3.011	36 34		20.02	
22	O. Arg. S. 138	8.0	0 14 47.32	1	3.034	— 23 46		20.02	
23	Weisse 247		0 14 48		3.081	+ 6 14 7.2	1	20.02	
24	Lacaille 60		0 15 45.84	1	3.005	— 36 9		20.01	
25	Lacaille 62	6.5	0 15 53.80	1	2.999	38 11		20.01	
26	Lacaille 72	7.0	0 17 6.29	1	2.993	— 38 11		20.00	
27	44 Piscium		0 18 13.60	3	3.074	+ 1 10		19.99	
28	Lacaille 81	6.0	0 18 26.26	1	2.982	— 40 2		19.99	
29	Weisse 302		0 18 30		3.085	+ 6 55 2.2	1	19.99	
30	Lacaille 92		0 20 31.23	1	2.995	— 32 38		19.98	
31	Lacaille 98		0 21 27.27	1	3.000	30 4		19.97	
32	Lacaille 100	7.0	0 21 49.88	1	3.011	25 28		19.97	
33	12 Ceti		0 22 53.65	5	3.056	— 4 44		19.96	
34	Santini 30	7.0	0 26 42.78	2	3.079	+ 2 32		19.92	
35	Lacaille 126	8.5	0 26 44		2.944	— 39 27 25.2	1	19.92	
36	B. A. C. 135	5.9	0 26 45.20	2	2.981	30 20		19.92	
37	B. A. C. 136, (1st *)	6.5	0 26 51.56	1	2.959	35 45		19.92	
38	B. A. C. 136, (2d *)	8.0	0 26 51.69	1	2.959	— 35 45		19.92	
39	Weisse 477	7.5	0 28 16.55	1	3.082	+ 3 30		19.90	
40	Anonymous	8.3	0 28 25.85	2	3.079	+ 2 32		19.90	
41	O. Arg. S. 284	8.5	0 28 41.12	3	2.985	— 27 38		19.90	
42	Lacaille 142	6.5	0 29 8.68	1	2.998	23 36		19.90	
43	Anonymous		0 29 25		2.933	— 39 3 50.8	2	19.89	
44	B. A. C. 161	7.0	0 30 18.09	1	3.079	+ 2 22		19.88	
45	O. Arg. S. 312	8.0	0 31 7.59	1	2.966	— 30 15		19.87	
46	Anonymous	8.5	0 31 27		2.954	32 48 14.7	2	19.87	
47	Lacaille 157	6.2	0 31 51.65	1	2.982	— 25 52		19.87	
48	B. A. C. 167	8.5	0 31 54.50	1	3.080	+ 2 22		19.86	
49	55 Piscium	6.0	0 32 33		3.144	20 40 11.9	2	19.86	
50	*a* Cassiopeæ		0 32 35		3.349	+ 55 46 8.6	4	19.85	
51	Anonymous	9.5	0 32 57.98	1	3.009	— 18 22		19.85	
52	Weisse 556	9.0	0 33 5.98	1	3.087	+ 4 30		19.85	
53	Anonymous	9.0	0 33 10.83	1	3.008	— 18 18		19.85	
54	Lacaille 169	6.0	0 33 40.20	2	2.958	— 30 13		19.84	
55	Weisse 583	7.7	0 34 9		3.082	+ 2 49 49.9	2	19.83	
56	O. Arg. S. 369	7.6	0 35 42.21	3	2.993	— 20 57 42.1	1	19.81	
57	λ^1 Sculptoris		0 35 58		2.901	— 39 13 53.0	2	19.81	
58	Weisse 616	8.0	0 36 2.62	1	3.093	+ 5 47		19.81	
59	Weisse 620	8.3	0 36 17.65	1	3.092	+ 5 22		19.81	
60	*β* Ceti		0 36 33.61	7	+ 3.000	— 18 44		+ 19.80	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
61	λ^2 Sculptoris		0 37 24		+ 2.895	— 39 11 36.5	2	+ 19.79	
62	B. A. C. 203		0 37 48.47	1	2.980	— 22 46		19.78	
63	Weisse 665	8.7	0 38 50.01	1	3.090	+ 4 32		19.78	
64	Lacaille 210		0 39 48.03	1	2.934	— 30 56		19.76	
65	60 Piscium	6.0	0 40 9.39	2	3.096	+ 5 58		19.75	
66	Lacaille 216	7.0	0 40 49.70	1	2.889	— 37 42		19.74	
67	Lalande 1299	7.0	0 41 2.74	1	3.091	+ 4 35		19.74	
68	Lacaille 219		0 41 6.44	1	2.934	— 30 8		19.73	
69	δ Piscium		0 41 25.23	3	3.101	+ 6 49 21.5	4	19.73	
70	O. Arg. S. 433		0 41 49		2.936	— 29 15 30.5	1	19.72	
71	O. Arg. S. 442	7.3	0 42 27.60	2	2.963	23 58 51.4	1	19.72	
72	Lacaille 224	6.0	0 42 39.68	3	2.961	24 8.		19.71	
73	O. Arg. S. 452	7.0	0 43 7.04	1	2.956	— 24 55		19.70	
74	Weisse 742	8.5	0 43 14.26	2	3.046	+ 6 21		19.70	
75	Weisse 770	9.0	0 44 25		3.087	3 15 36.7	1	19.68	
76	Weisse 775	7.5	0 44 43		3.087	3 17 54.5	2	19.68	
77	Weisse 778		0 45 27.80	1	3.104	+ 6 56		19.67	
78	20 Ceti		0 45 51.08	1	3.063	— 1 54 18.4	3	19.66	
79	Lacaille 241, (1st *)	6.0	0 46 20.21	1	2.944	25 32		19.65	
80	Lacaille 241, (2d *)	8.5	0 46 20.31	1	2.944	— 25 32		19.65	
81	Anonymous	9.2	0 46 48.26	1	3.078	+ 1 17		19.64	
82	B. A. C. 249		0 47 19.71	1	2.893	— 33 6		19.63	
83	O. Arg. S. 506	7.6	0 48 15.75	2	2.983	17 43		19.62	
84	Weisse 845	7.5	0 48 54.12	1	3.050	4 30		19.60	
85	Anonymous		0 49 15		2.926	27 6 24.4	1	19.60	
86	Lacaille 257	6.5	0 49 59.23	1	2.934	— 26 5		19.58	
87	Weisse 871	8.0	0 50 30.11	1	3.079	+ 1 20		19.57	
88	O. Arg. S. 542	8.0	0 51 29.63	2	2.915	— 27 51		19.55	
89	O. Arg. S. 544	7.2	0 51 49.41	4	2.961	20 23 21.4	1	19.55	
90	α Sculptoris		0 51 51.46	2	2.898	— 30 7		19.55	
91	Lalande 1737	8.5	0 53 24.02	1	3.119	+ 8 45		19.52	
92	Weisse 928		0 53 37		3.094	4 4 45.6	1	19.51	
93	Santini 58	6.5	0 55 24.50	1	3.119	8 23		19.47	
94	ε Piscium		0 55 40.80	10	3.112	+ 7 9		19.47	
95	O. Arg. S. 592	8.0	0 56 23.53	2	2.928	— 23 56		19.45	
96	26 Ceti		0 56 36.85	1	3.076	+ 0 36 56.8	3	19.45	
97	Anonymous	7.0	0 56 43		2.861	— 32 49 53.0	1	19.45	
98	O. Arg. S. 613	7.0	0 58 42		2.884	29 4 18.2	1	19.40	
99	Lacaille 301	7.3	0 58 50.19	1	2.894	27 42		19.40	
100	O. Arg. S. 623	7.6	0 59 11.58	2	2.894	27 28		19.39	
101	Weisse 1041	9.0	0 59 15.91	1	3.063	1 30		19.39	
102	B. A. C. 319	6.0	0 59 52.55	2	2.817	36 24		19.38	
103	O. Arg. S. 635		1 0 25.11	1	2.912	— 24 44		19.37	
104	ε Piscium		1 1 9.52	1	3.102	+ 4 55		19.35	
105	β Andromedæ		1 1 54		3.321	34 52 37.7	1	19.33	
106	Weisse 20	9.2	1 3 1.09	2	3.086	2 15		19.30	
107	Anonymous		1 4 9.74	1	3.076	0 35		19.28	
108	35 Ceti		1 5 16		3.083	1 43 51.8	1	19.25	
109	ζ Piscium, (1st *)		1 6 22		3.118	6 50 3.5	1	19.22	
110	ζ Piscium, (2d *)		1 6 22		3.118	6 50 15.2	1	19.22	
111	Polaris		1 8 2		18.839	+ 88 33 47.7	20	19.18	
112	Polaris, S. P.		1 8 2			47.0	14	19.18	
113	O. Arg. S. 752		1 11 54		2.839	— 29 28 14.7	1	19.08	
114	δ Cassiopeæ		1 16 41		3.817	+ 59 30 22.0	1	18.94	
115	B. A. C. 418	7.0	1 16 54.39	1	2.866	— 25 5		18.94	
116	θ Ceti		1 17 1.61	4	3.003	— 8 54		18.94	
117	Weisse 269		1 17 1		3.116	+ 5 45 14.2	1	18.94	
118	O. Arg. S. 818	8.6	1 17 47		2.823	— 29 13 51.0	2	18.91	
119	A Cassiopeæ		1 20 52		4.311	+ 69 32 32.7	1	18.82	
120	A Cassiopeæ, S. P.		1 20 52			29.4	2	18.82	
121	O. Arg. S. 857	7.3	1 21 26.08	2	2.826	— 27 50		18.81	
122	O. Arg. S. 861	7.0	1 22 9.67	1	2.848	— 25 30		18.78	
123	μ Piscium	4.5	1 22 50		3.117	+ 5 25 17.2	3	18.76	
124	η Piscium		1 23 59.81	9	3.197	+ 14 37 23.1	2	18.72	
125	Lacaille 435	6.8	1 25 20.74	1	+ 2.809	— 28 24		+ 18.68	

Number.		Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
126		Anonymous	9.0	1 26 47.91	1	+ 3.050	— 2 31		+ 18.64	
127		Lacaille 451	7.2	1 27 33		2.790	29 30 9.0	3	18.61	
128		Lacaille 459	7.2	1 28 25.79	2	2.705	36 3		18.58	
129		Anonymous	8.0	1 28 31		2.846	— 24 10 1.9	2	18.58	
130	103	Piscium		1 31 42		3.221	+ 15 54 51.4	1	18.47	
131		B. A. C. 504		1 32 15		2.820	— 25 44 6.6	2	18.45	
132		Weisse 607	9.0	1 34 4.37	1	3.107	+ 3 47		18.39	
133	ν	Piscium		1 34 8.95	5	3.116	+ 4 48		18.39	
134		Lacaille 492	6.9	1 34 53		2.708	— 34 6 28.4	3	18.36	
135		Weisse 628	8.5	1 34 56.09	1	3.107	+ 3 43		18.36	
136	o	Piscium		1 38 0.25	2	3.154	+ 8 27 6.9	1	18.25	
137		Lalande 3237	9.0	1 38 42		3.046	— 2 37 44.8	2	18.23	
138		O. Arg. S. 1049	9.0	1 38 44.42	1	2.786	27 4		18.23	
139		O. Arg. S. 1053	7.5	1 39 3.61	1	2.785	27 6		18.21	
140		O. Arg. S. 1057	7.5	1 39 15.01	1	2.785	27 0		18.20	
141		O. Arg. S. 1058	9.0	1 39 17.18	1	2.785	27 0		18.20	
142		Lacaille 513	7.0	1 39 32		2.772	28 2 56.9	2	18.19	
143		O. Arg. S. 1066	7.3	1 40 31.90	2	2.885	— 18 11		18.16	
144		Santini 102		1 41 19.59	1	3.142	+ 6 58		18.13	
145		Weisse 775	9.0	1 43 44.10	1	3.218	+ 14 7		18.04	
146		B. A. C. 563		1 43 45		2.597	— 39 6 33.4	2	18.04	
147		Anonymous		1 43 46		3.153	+ 7 51 19.1	1	18.03	
148		O. Arg. S. 1116	8.2	1 43 47.20	1	2.818	— 23 28		18.03	
149	ε	Cassiopeæ		1 44 21		4.225	+ 62 58 42.6	3	18.01	
			S. P.				39.1	1	18.01	
150		O. Arg. S. 1151	8.0	1 45 21.58	3	2.810	— 23 49		17.97	
151		Weisse 807	8.5	1 45 31.51	1	3.222	+ 14 11		17.97	
152	ξ	Piscium		1 46 18.64	1	3.098	+ 2 29 42.6	2	17.94	
153		O. Arg. S. 1146	8.5:	1 46 20		2.774	— 26 31 5.5	1	17.94	
154	β	Arietis		1 46 54.75	8	3.292	+ 20 7		17.91	
155		Anonymous	9.0	1 49 14.63	1	2.757	— 27 11		17.82	
156	ι	Arietis		1 49 42		3.262	+ 17 7 57.6	2	17.80	
157		Weisse 880		1 50 4		3.198	+ 9 11 59.3		17.79	
158		O. Arg. S. 1181	9.0	1 50 5		2.863	— 18 41 25.4		17.79	
159	50	Cassiopeæ		1 51 33		4.967	+ 71 44 28.1	5	17.73	
			S. P.	3.8			28.0	4	17.73	
160		O. Arg. S. 1210	8.7	1 52 21		2.858	— 18 44 31.2	1	17.69	
161		Lacaille 586, (1st *)	7.6	1 52 27.90	3	2.797	23 25		17.69	
162		Lacaille 586, (2d *)	7.2	1 52 28.35	3	2.797	23 25		17.69	
163		O. Arg. S. 1245		1 55 1		2.754	26 18 37.3	1	17.58	
164		Lacaille 607	8.0	1 56 3		2.802	22 38 29.7	2	17.54	
165		O. Arg. S. 1256		1 56 12.58	1	2.735	27 25		17.53	
166		O. Arg. S. 1259	7.0	1 56 22		2.775	24 33 39.5	1	17.53	
167		O. Arg. S. 1261	8.0	1 56 29		2.807	22 35 12.4	1	17.52	
168		O. Arg. S. 1266		1 56 59.24	1	2.756	25 49		17.50	
169		Anonymous	7.3	1 57 3.92	2	2.857	— 18 11		17.50	
170	a	Arietis		1 59 17.29	12	3.351	+ 22 47 55.3	8	17.40	
171		Lalande 3979	6.0	2 2 5		2.845	— 18 26 37.2	1	17.28	
172		O. Arg. S. 1344		2 2 36.42	2	2.774	23 39		17.25	
173		O. Arg. S. 1354	8.0	2 3 27.62	1	2.681	— 29 39		17.22	
174	η	Arietis		2 4 58		3.332	+ 20 33 6.3	2	17.15	
175		Weisse 56	9.0	2 5 1.63	1	3.209	11 13		17.15	
176		Weisse 61	7.7	2 5 19.67	1	3.210	11 12 4.2	2	17.13	
177	19	Arietis		2 5 25		3.253	14 37 22.5	1	17.13	
178	ξ^1	Ceti		2 5 35.05	1	3.172	+ 8 12		17.12	
179		O. Arg. S. 1421	8.0	2 8 46		2.859	— 16 37 47.0	2	16.97	
180		O. Arg. S. 1433		2 9 19.58	1	2.705	27 10		16.95	
181	67	Ceti		2 10 0.08	6	2.983	— 7 4		16.92	
182		Weisse 188	8.5	2 13 1.84	1	3.240	+ 13 1		16.77	
183		Weisse 209	9.2	2 13 53.02	2	3.246	+ 13 17		16.73	
184		Lalande 4410	6.0	2 15 29.07	1	2.825	— 18 18		16.65	
185		O. Arg. S. 1522	7.0	2 16 20		2.814	18 59 20.6	1	16.61	
186		B. A. C. 743	6.7	2 17 8.51	1	2.678	27 37		16.57	
187		O. Arg. S. 1535	8.7	2 17 48		2.815	18 47 53.7	2	16.54	
188		Lacaille 726	6.4	2 18 2.77	3	2.695	26 29		16.53	
189		O. Arg. S. 1551	6.0	2 19 34		2.853	— 15 58 20.8	1	16.45	
190	ξ^2	Ceti		2 20 43.16	5	+ 3.178	+ 7 49 50.5	2	+ 16.39	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
191	B. A. C. 765	5.3	2 22 4		+ 2.540	— 34 26 22.7	2	+ 16.32	
192	Weisse 363	7.5	2 22 17.92	1	3.180	+ 7 52		16.31	
193	Lacaille 750	8.5	2 22 40.62	1	2.728	— 23 50		16.29	
194	Anonymous	8.4	2 23 2.27	2	2.659	27 53		16.27	
195	B. A. C. 774	7.0	2 23 56.10	1	2.692	25 49		16.23	
196	Anonymous		2 24 26		2.758	— 21 42 45.0	1	16.20	
197	Weisse (2) 587	8.2	2 24 26.79	1	3.386	+ 21 42		16.20	
198	σ Ceti	4.3	2 25 26		2.847	— 15 51 39.3	3	16.15	
199	Anonymous	7.3	2 26 10		2.550	33 13 34.9	1	16.11	
200	O. Arg. S. 1630	7.2	2 26 18.22	3	2.655	27 37		16.11	
201	B. A. C. 790	6.7	2 27 42.84	1	2.629	28 51		16.04	
202	Lacaille 787	6.2	2 28 12.85	2	2.738	22 32		16.01	
203	O. Arg. S. 1655		2 28 30.13	1	2.811	17 54		15.99	
204	O. Arg. S. 1664	8.5	2 29 32.75	1	2.652	27 18		15.94	
205	Lacaille 802		2 30 59.70	1	2.596	29 36		15.86	
206	Lacaille 803	6.3	2 31 23		2.714	23 36 8.1	3	15.84	
207	δ Ceti		2 32 20		3.068	0 16 38.7	1	15.79	
208	Anonymous	7.0	2 32 46.26	2	2.571	— 31 13		15.76	
209	Weisse (2) 805	7.8	2 33 34		3.334	+ 21 38 33.1	2	15.72	
210	O. Arg. S. 1735		2 34 3.38	1	2.568	— 31 14		15.69	
211	O. Arg. S. 1738		2 34 5		2.688	24 44 18.6	1	15.69	
212	O. Arg. S. 1744	7.5	2 34 40.49	1	2.794	— 18 26		15.66	
213	Weisse 603	9.4	2 35 14.18	2	3.261	+ 12 40		15.63	
214	γ Ceti		2 36 2.93	3	3.111	2 38 37.5	2	15.58	
215	Weisse 615	8.1	2 36 6.93	3	3.262	+ 12 41 35.1	1	15.58	
216	Lacaille 838	6.3	2 36 45.44	1	2.609	— 28 45		15.54	
217	Weisse 639	7.0	2 37 29.91	1	3.262	+ 12 35		15.50	
218	B. A. C. 854	6.7	2 38 1.24	1	2.656	— 26 4		15.47	
219	Lacaille 865	6.5	2 39 56.42	1	2.655	— 25 54		15.37	
220	η Persei		2 40 30		4.317	+ 55 18 40.9	2	15.34	
221	Weisse 694	9.0	2 40 44.61	1	3.262	12 22		15.32	
222	Weisse 702	8.4	2 41 7.58	1	3.263	12 27 1.2	1	15.30	
223	π Arietis	6.3	2 41 29.12	2	3.335	16 53		15.28	
224	Weisse 724	7.8	2 42 32.60	2	3.275	+ 13 7 40.7	1	15.22	
225	Anonymous	8.0	2 42 43		2.477	— 34 21 57.8	3	15.21	
226	Weisse 728	8.0	2 42 47.27	1	2.872	12 55		15.20	
227	β Fornacis	4.0	2 43 2		2.506	32 59 44.6	1	15.19	
228	O. Arg. S. 1838	8.0	2 43 11.73	1	2.790	17 51		15.18	
229	γ Fornacis	6.0	2 43 40		2.661	— 25 8 16.8	1	15.16	
230	Weisse 746	8.7	2 43 49.48	2	3.273	+ 12 54 47.6	1	15.16	
231	B. A. C. 894	5.5	2 46 0.62	2	2.531	— 31 33		15.02	
232	Anonymous	7.9	2 47 29		2.680	23 43 6.4	3	14.93	
233	O. Arg. S. 1887		2 47 59		2.683	— 23 31 19.5	1	14.90	
234	Weisse 841	8.3	2 48 31.57	3	3.290	+ 13 20 49.5	1	14.88	
235	ρ^3 Arietis	6.0	2 48 32.34	1	3.354	+ 17 28		14.88	
236	O. Arg. S. 1901	6.5	2 48 43.62	1	2.534	— 31 28		14.86	
237	O. Arg. S. 1910	8.2	2 49 41.12	1	2.674	23 47 16.8	1	14.80	
238	4 Eridani	6.7	2 51 10.33	2	2.659	— 24 25		14.72	
239	ε Arietis		2 51 12.80	2	3.417	+ 20 47		14.72	
240	Anonymous	8.0	2 51 22.21	1	3.054	— 1 8		14.70	
241	O. Arg. S. 1930	7.6	2 51 27		2.804	16 24 27.2	2	14.70	
242	Anonymous	8.3	2 52 38.12	3	2.597	27 28		14.63	
243	Lacaille 951	6.7	2 53 21		2.436	34 44 55.7	2	14.59	
244	O. Arg. S. 1968	7.4	2 54 43.08	2	2.577	— 28 11		14.50	
245	a Ceti		2 54 57.86	6	3.129	+ 3 32 17.7	7	14.49	
246	O. Arg. S. 1977	7.5	2 55 35		2.757	— 18 45 37.7	1	14.45	
247	Weisse 976		2 55 49.92	3	3.302	+ 13 55 13.7	1	14.44	
248	τ^3 Eridani	5.6	2 56 13.16	2	2.654	— 24 10 31.1	2	14.41	
249	Anouymous	8.2	2 57 41.68	3	3.301	+ 13 44		14.33	
250	Anonymous	9.0	2 58 0.49	1	3.300	13 41		14.31	
251	Anonymous	8.3	2 58 4.25	2	3.301	+ 13 44		14.30	
252	Anonymous	7.5	2 58 37		2.607	— 26 19 31.3	2	14.26	
253	Anonymous	6.5	2 58 46.57	1	2.415	— 34 56		14.26	
254	53 Arietis	6.0	2 59 33.02	1	3.366	+ 17 20 16.0	1	14.21	
255	Weisse 1069		3 0 26		+ 3.086	+ 0 51 52.3	1	+ 14.16	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
256	Lacaille 983	7.5	3 1 28.68	1	+ 2.454	— 32 53		+ 14.09	
257	Lacaille 988	6.2	3 2 6.39	1	2.502	— 30 50		14.05	
258	Weisse 20	7.0	3 2 52		3.264	+ 11 20 21.7	1	14.00	
259	δ Arietis		3 3 37.77	6	3.406	19 12		13.96	
260	B. A. C. 987	6.0	3 3 44		3.285	+ 12 30 52.3	1	13.95	
261	Lacaille 996	6.6	3 4 24		2.637	— 24 16 20.6	4	13.91	
262	12 Eridani	6.0	3 6 7.83	1	2.522	29 32		13.79	
263	Anonymous	7.3	3 6 43.35	1	2.753	— 18 9		13.76	
264	Weisse 101	8.2	3 6 45.63	1	3.289	+ 12 33		13.76	
265	ζ Arietis		3 6 51.60	2	3.437	+ 20 32		13.75	
266	Anonymous	8.5	3 7 1.27	1	2.753	— 18 9		13.74	
267	Anonymous	9.0	3 7 12.87	1	3.290	+ 12 37		13.73	
268	Lacaille 1010	7.0	3 7 24.36	2	2.551	— 28 6		13.72	
269	Anonymous	7.5	3 7 30.62	1	2.520	29 29		13.71	
270	B. A. C. 1012	5.7	3 8 58		2.580	— 26 37 15.4	2	13.61	
271	Anonymous	9.0	3 9 55		3.328	+ 14 34 50.8	1	13 55	
272	Weisse 173	7.1	3 10 39.37	2	3.331	+ 14 40 24.0	1	13 51	
273	O. Arg. S. 2173	9.0	3 11 3		2.733	— 18 54 20.4	1	13 48	
274	Lacaille 1041	6.4	3 11 8.98	2	2.630	24 2 9.9	2	13 47	
275	Lacaille 1041		3 11 9		2.640	24 2 9.6	2	13.47	
276	Lacaille 1048	7.5	3 11 50.69	1	2.569	— 26 53		13.43	
277	Weisse (2) 255		3 12 13.55	3	3.341	+ 15 9		13.40	
278	O. Arg. S. 2189		3 12 17		2.728	— 19 4 11.3	2	13.40	
279	τ^4 Eridani	4.2	3 13 19		2.663	22 16 8.1	2	13.33	
280	B. A. C. 1039	4.7	3 13 28		2.614	— 24 37 55.3	2	13.32	
281	α Persei		3 14 21		4.240	+ 49 21 35.0	1	13.27	
282	Anonymous	7.5	3 14 22		2.612	— 24 37 17.9	1	13.27	
283	B. A. C. 1046	7.0	3 14 44.95	1	2.565	26 47		13.24	
284	B. A. C. 1047	6.7	3 14 46.57	1	2.555	27 7		13.24	
285	B. A. C. 1049	5.9	3 15 17.16	3	2.621	24 8 21.7	1	13.20	
286	B. A. C. 1054	6.0:	3 16 8		2.578	26 5 27.4	1	13.15	
287	O. Arg. S. 2237	7.2	3 16 53.04	2	2.743	— 17 59		13.10	
288	Weisse 295	7.7	3 17 23.54	1	3.242	+ 9 32		13.06	
289	Lacaille 1079	7.7	3 17 46.42	1	2.522	— 28 25		13.04	
290	O. Arg. S. 2245	6.7	3 17 53.54	2	2.673	21 26		13.03	
291	Anonymous	9.0	3 18 0		2.723	— 18 58 14.7	2	13.03	
292	Anonymous	9.2	3 19 13.09	1	3.164	+ 5 9		12.94	
293	Weisse 334	6.5	3 19 36.26	2	3.294	+ 12 15		12.92	
294	Anonymous		3 19 40.83	1	2.533	— 27 48		12.91	
295	B. A. C. 1073	6.0	3 20 28.08	1	2.531	27 49		12.86	
296	Lacaille 1102	7.7	3 20 53.52	1	2.502	— 29 1		12.83	
297	B. A. C. 1061		3 21 1.66	1	18.546	+ 86 13		12.82	
298	Anonymous	8.8	3 22 12.01	1	3.170	+ 5 27		12.75	
299	O. Arg. S. 2311	6.8	3 23 28.57	4	2.611	— 23 57 38.4	2	12.66	
300	Lacaille 1121	8.0	3 24 45		2.509	28 24 25.2	1	12.57	
301	Lacaille 1124	7.0	3 25 48		2.560	26 5 27.7	4	12.50	
302	Lacaille 1127	6.5	3 25 53.04	1	2.366	34 1		12.49	
303	ε Eridani		3 26 20.15	9	2.889	9 56		12.46	
304	O. Arg. S. 2343	8.5	3 26 29		2.558	26 8 2.4	2	12.45	
305	Lacaille 1134	6.2	3 28 12.83	2	2.437	31 5		12.33	
306	10 Tauri		3 29 43.72	1	3.061	0 3		12.23	
307	Anonymous	7.8	3 29 49		2.706	19 0 48.2	2	12.22	
308	O. Arg. S. 2388	9.0	3 29 55		2.600	— 23 58 58.1	1	12.21	
309	Weisse 575	8.0	3 31 25.85	1	3.115	+ 2 17		12.11	
310	B. A. C. 1119	7.0	3 31 30.96	4	3.379	16 4 44.3	2	12.10	
311	Weisse 580	7.5	3 31 38.00	1	3.115	+ 2 19		12.09	
312	Anonymous	9.0	3 31 47		2.629	— 22 33 29.2	1	12.08	
313	Lacaille 1160	6.8	3 32 32.35	3	2.410	— 31 45		12.03	
314	δ Persei		3 33 0		4.234	+ 47 20 10.7	3	12.00	
315	Lacaille 1171	6.5	3 34 6.74	1	2.477	— 28 56		11.92	
316	Lacaille 1176	7.0	3 34 38.06	1	2.318	35 1		11.88	
317	Anonymous		3 35 1.24	1	2.489	— 28 24		11.86	
318	Rumker 945		3 35 26		2.593	+ 23 55 41.5	1	11.83	
319	Lacaille 1186	7.2	3 35 58.25	1	2.565	— 25 6		11.79	
320	O. Arg. S. 2468	8.5	3 36 1.79	2	+ 2.597	— 23 41 45.6	2	+ 11.79	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
321	Rumker 952	9.0	3 36 5		+ 3.547	+ 23 41 18.1	2	+ 11.78	
322	16 Tauri	6.5	3 36 29		3.551	23 50 46.3	2	11.75	
323	17 Tauri	5.9	3 36 34		3.547	23 40 13.3	9	11.75	
324	1 Pleiadum	9.0	3 37 8		3.546	23 35 37.4	4	11.71	
325	4 Pleiadum		3 37 18		3.554	23 53 40.5	1	11.69	
326	20 Tauri	5.0	3 37 30		3.554	+ 23 55 38.0	2	11.68	
327	Lacaille 1196	6.5	3 37 32.61	1	2.408	— 31 27		11.68	
328	7 Pleiadum	9.0	3 37 33		3.546	+ 23 35 54.4	4	11.68	
329	O. Arg. S. 2488	9.0	3 37 47		2.624	— 22 22 54.2	1	11.66	
330	8 Pleiadum		3 37 53		3.551	+ 23 45 21.4	2	11.66	
331	Weisse 845		3 37 54.69	1	3.551	23 45		11.66	
332	23 Tauri	6.5	3 38 2		3.546	23 30 32.3	8	11.64	
333	10 Pleiadum		3 38 8.04	1	3.553	+ 23 49		11.64	
334	O. Arg. S. 2495	7.5	3 38 12.47	2	2.467	— 29 3		11.63	
335	13 Pleiadum		3 38 48		3.548	+ 23 33 25.8	1	11.59	
336	O. Arg. S. 2504	7.0	3 38 49		2.590	— 23 49 15.4	1	11.59	
337	24 Tauri	8.3	3 39 2		3.551	+ 23 40 49.3	5	11.57	
338	B. A. C. 1165	7.8	3 39 10		3.555	23 51 9.3	2	11.56	
339	η Tauri	5.4	3 39 10.07	9	3.551	23 40 9.3	11	11.56	
340	Weisse (2) 878	8.1	3 39 38.18	3	3.391	16 16 8.6	1	11.53	
341	Weisse (2) 887	8.0	3 40 2.86	2	3.397	16 31 39.5	1	11.50	
342	B. A. C. 1171	8.0	3 40 10		3.558	+ 23 54 45.1	2	11.49	
343	B. A. C. 1179	7.6	3 40 45.02	1	2.444	— 29 48		11.45	
344	τ^6 Eridani	6.2	3 40 49.41	1	2.591	— 23 39 57.4	3	11.44	
345	27 Tauri	6.5	3 40 50.59	3	3.552	+ 23 37 20.4	11	11.44	
346	28 Tauri	7.2	3 40 51.74	3	3.554	23 42 20.3	11	11.44	
347	33 Pleiadum	8.5	3 41 6		3.557	+ 23 49 2.1	1	11.43	
348	τ^7 Eridani	5.0	3 41 38		2.575	— 24 18 36.0	1	11.39	
349	Lacaille 1231	6.2	3 42 0		2.516	26 45 41.9	2	11.36	
350	O. Arg. S. 2556	6.1	3 42 25.92	2	2.641	— 21 20		11.33	
351	B. A. C. 1195	7.8	3 42 33.22	2	3.553	+ 23 22 6.2	7	11.32	
352	O. Arg. S. 2571	8.2	3 43 43.61	1	2.494	— 27 34		11.23	
353	Anonymous	7.0	3 43 58		2.686	19 10 21.4	1	11.22	
354	Anonymous	6.6	3 44 45.82	1	2.360	— 32 41		11.16	
355	B. A. C. 1206	6.5	3 45 9.99	3	3.410	+ 16 54 26.4	1	11.13	
356	ζ Persei		3 45 20		3.753	31 27 54.0	1	11.12	
357	Weisse (2) 1013	9.0	3 46 35.78	1	3.472	19 41		11.03	
358	Weisse (2) 1015	9.0	3 46 37.66	3	3.412	16 55 38.7	1	11.02	
359	B. A. C. 1211		3 46 47		9.614	80 18 15.1	5	11.01	
		S. P.				15.4	4	11.01	
360	Weisse (2) 1019	8.7	3 46 52.54	1	3.472	+ 19 41		11.00	
361	O. Arg. S. 2623	7.4	3 47 54.23	3	2.584	— 23 32 29.9	1	10.93	
362	B. A. C. 1222	8.4	3 48 30.40	1	2.473	— 28 5		10.89	
363	Anonymous	8.0	3 48 45.07	1	3.474	+ 19 41		10.87	
364	Lacaille 1284	7.0	3 49 43.18	1	2.514	— 26 20 24.0	1	10.79	
365	O. Arg. S. 2663	8.0	3 49 47		2.507	26 37 30.0	2	10.79	
366	O. Arg. S. 2666		3 49 55.54	1	2.503	26 20		10.78	
367	B. A. C. 1229	7.5	3 49 56.59	2	2.791	14 0 26.4	1	10.78	
368	Lacaille 1291	7.0	3 50 32.13	1	2.418	30 4		10.74	
369	Anonymous	8.0	3 50 46		2.684	18 57 40.1	1	10.72	
370	γ Eridani	3.0	3 51 29.94	6	2.792	13 54 32.2	2	10.67	
371	O. Arg. S. 2710	9.0	3 53 45.44	1	2.437	29 10		10.50	
372	τ^9 Eridani	6.1	3 53 57.52	1	2.555	24 25		10.48	
373	Anonymous	8.7	3 54 37.66	1	2.483	27 13 58.8	1	10.43	
374	B. A. C. 1250	6.0	3 55 5.58	1	2.388	30 53		10.40	
375	Anonymous	7.0	3 55 9		2.594	22 40 16.7	1	10.39	
376	Lacaille 1317	7.5	3 55 28		2.490	26 54 42.3	1	10.37	
377	O. Arg. S. 2741	7.8	3 55 47.90	2	2.621	— 21 25		10.35	
378	A^1 Tauri		3 56 26		3.529	+ 21 41 47.4	1	10.30	
379	Lacaille 1324	8.5	3 56 40.67	1	2.438	— 28 55		10.28	
380	O. Arg. S. 2761	7.3	3 56 56.57	3	2.463	27 54		10.26	
381	Lacaille 1329	7.0	3 57 36		2.505	26 14 7.2	3	10.21	
382	Anonymous	9.0	3 57 39		2.489	— 26 52 5.2	1	10.21	
383	Weisse (2) 1261	8.3	3 58 42.36	4	3.431	+ 17 16 58.4	1	10.13	
384	O. Arg. S. 2796	6.2	3 59 38.45	2	2.530	— 20 54		10.05	
385	B. A. C. 1273	7.6	3 59 51.27	1	+ 2.456	— 28 2		+ 10.03	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
386	Lacaille 1346	7.2	4 0 4.96	2	+ 2.364	— 31 25		+ 10.02	
387	O. Arg. S. 2803		4 0 11.77	1	2.565	— 23 40		10.02	
388	Weisse (2) 1	8.8	4 2 1.76	2	3.445	+ 17 45		9.88	
389	37 Eridani	6.0	4 3 32.83	2	2.924	— 7 12		9.76	
390	Anonymous	9.0	4 3 40.57	1	2.446	28 10		9.75	
391	Anonymous	6.7	4 3 45		2.662	19 22 15.8	1	9.74	
392	Lacaille 1370	7.7	4 4 5.94	2	2.516	— 25 24		9.72	
393	Weisse (2) 65	8.3	4 4 35.33	2	3.441	+ 17 28 15.7	1	9.68	
394	Anonymous	8.2	4 4 47		2.476	— 26 58 27.7	2	9.66	
395	Lacaille 1373	8.1	4 4 52.89	1	2.514	25 27		9.66	
396	o^1 Eridani		4 5 1.98	5	2.924	7 12 17.6	1	9.65	
397	Anonymous	9.2	4 6 53.05	1	2.438	— 28 18		9.50	
398	Weisse (2) 118	8.0	4 7 3.41	1	3.789	+ 31 19		9.49	
399	Lalande 7931	8.3	4 7 4.84	1	2.560	— 23 29 13.1	1	9.49	
400	Weisse (2) 120	8.5	4 7 6.15	1	3.789	+ 31 19		9.49	
401	Anonymous	7.7	4 8 29.92	1	2.412	— 29 10		9.38	
402	O. Arg. S. 2922	7.5	4 8 29.99	2	2.376	30 28		9.38	
403	Lacaille 1389	7.0	4 8 33.55	1	2.322	— 32 23		9.37	
404	ω^2 Tauri		4 9 4		3.508	+ 23 13 48.5	1	9.33	
405	Anonymous	7.4	4 9 32.78	1	2.411	— 29 11		9.30	
406	O. Arg. S. 2930	7.8	4 9 32.85	3	2.376	30 36		9.30	
407	O. Arg. S. 2938	7.6	4 9 48.02	4	2.554	23 35 24.4	1	9.28	
408	O. Arg. S. 2939	6.0	4 9 50		2.581	22 30 2.6	1	9.27	
409	Anonymous	9.5	4 11 26.01	1	2.374	30 25		9.15	
410	B. A. C. 1327		4 11 34		2.100	— 39 13 52.1	1	9.14	
411	γ Tauri		4 11 50		3.397	+ 15 17 12.6	1	9.12	
412	Weisse (2) 248	6.5	4 12 17.36	2	3.478	+ 18 24 14.1	1	9.08	
413	Anonymous	9.3	4 13 7.76	1	2.462	— 27 3		9.01	
414	Anonymous	8.7	4 13 18		2.546	— 23 45 20.9	1	9.00	
415	Weisse (2) 270	7.3	4 13 25.39	1	3.462	+ 18 4 56.0	1	9.00	
416	Anonymous	8.0	4 13 37.43	1	2.336	— 31 27		8.98	
417	B. A. C. 1340	7.8	4 13 51.36	1	2.505	— 25 22		8.96	
418	δ Tauri		4 14 51.92	1	3.443	+ 17 12 39.5	4	8.88	
419	Weisse (2) 348	7.6	4 16 34.99	3	3.476	18 34		8.75	
420	Weisse (2) 350		4 16 52.23	1	3.745	29 10		8.72	
421	Weisse (2) 363	8.7	4 17 20.16	1	3.476	+ 18 32		8.69	
422	Anonymous	7.8	4 17 28		2.492	— 25 42 46.7	1	8.67	
423	Weisse (2) 376	7.7	4 17 42.90	3	3.476	+ 18 32 30.1	1	8.66	
424	O. Arg. S. 3044	8.8	4 17 48.12	2	2.432	— 27 58		8.65	
425	O. Arg. S. 3061	8.0	4 19 13.65	1	2.415	— 28 31		8.54	
426	ε Tauri		4 20 26.72	4	3.486	+ 18 52		8.44	
427	O. Arg. S. 3082	8.0	4 20 35.15	2	2.558	— 23 27 11.7	2	8.43	
428	Lacaille 1459		4 21 52.14	1	2.396	29 34		8.33	
449	O. Arg. S. 3108	8.8	4 22 19		2.557	23 24 53.9	2	8.29	
430	Lacaille 1474		4 23 46		2.461	— 26 35 8.6	2	8.18	
431	Weisse 512	7.7	4 23 51.22	3	3.638	+ 24 53		8.17	
432	Lacaille 1480	7.3	4 24 9.53	1	2.385	— 29 20		8.14	
433	Lacaille 1485	8.3	4 24 22.76	4	2.389	29 11		8.13	
434	Anonymous	8.0	4 24 53.19	2	2.536	23 40		8.08	
435	O. Arg. S. 3154		4 25 45.90	2	2.387	— 29 11		8.02	
436	Weisse 554		4 26 45		3.186	+ 5 16 21.6	1	7.94	
437	Lacaille 1504	8.0	4 26 47		2.486	— 25 30 17.5	1	7.94	
438	Lacaille 1509	7.5	4 27 22.90	1	2.477	— 25 51 24.3	2	7.89	
439	α Tauri		4 27 53.44	22	3.430	+ 16 13 28.3	8	7.85	
440	Anonymous	9.5	4 28 10.66	1	3.199	+ 5 53		7.82	
441	Anonymous	9.0	4 28 12.69	1	2.446	— 26 58		7.82	
442	Anonymous	8.2	4 28 39.87	1	2.337	— 30 50		7.78	
443	Weisse (2) 620	7.9	4 28 50.86	2	3.658	+ 25 26		7.77	
444	Lacaille 1521	7.2	4 29 4		2.489	— 25 19 47.3	1	7.75	
445	Anonymous	9.5	4 29 4.77	1	3.199	+ 5 52		7.75	
446	Lacaille 1522	6.5	4 29 26.42	2	2.501	— 24 50		7.72	
447	Weisse (2) 637	8.7	4 29 40.58	1	3.629	+ 24 16		7.70	
448	v^7 Eridani	4.0	4 30 6.49	1	2.335	— 30 50		7.67	
449	Anonymous	9.0	4 30 39		2.446	26 50 58.9	1	7.62	
450	Lacaille 1531	7.0	4 31 0		+ 2.432	— 27 20 1.1	1	+ 7.59	

Number.		Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
451		B. A. C. 1439	6.0	4 31 24.89	1	+ 2.329	— 30 59		+ 7.56	
452		Anonymous	8.7	4 32 2		2.439	27 3 44.0	1	7.51	
453		Anonymous	8.2	4 32 21.00	3	2.426	— 27 31		7.48	
454		Weisse (2) 713	9.2	4 33 1.12	1	3.584	+ 22 24		7.43	
455		Lacaille 1540		4 33 8		2.467	— 25 59 0.5	1	7.42	
456		Weisse (2) 719	8.8	4 33 19.27	2	3.583	+ 22 21		7.41	
457		Weisse (2) 720	8.5	4 33 20.29	1	3.585	22 27		7.41	
458		Anonymous		4 33 35		3.247	+ 8 0 20.5	1	7.38	
459		B. A. C. 1450	6.9	4 34 17.48	2	2.498	— 24 46		7.33	
460	54	Eridani		4 34 19.04	1	2.620	19 56		7.32	
461		Lacaille 1549	7.9	4 35 6.80	4	2.397	28 26		7.26	
462		Lacaille 1553	7.8	4 35 20		2.060	39 4 50.0	1	7.24	
463		Anonymous	7.0	4 36 29		2.530	23 26 45.9	1	7.15	
464		Lalande 8923	7.7	4 37 6.36	1	2.997	3 27		7.10	
465		O. Arg. S. 3325	8.8	4 37 16		2.512	24 6 42.5	2	7.08	
466		O. Arg. S. 3326	7.8	4 37 23.92	3	2.518	23 53		7.07	
467		Lacaille 1568	8.2	4 37 48		2.052	39 7 24.9	1	7.04	
468	μ	Eridani		4 38 30.21	7	2.995	3 31		6.98	
469		B. A. C. 1471	7.6	4 38 37.38	2	2.410	27 50		6.97	
470		O. Arg. S. 3360	8.0	4 40 7.26	2	2.379	— 28 54		6.85	
471	α	Camelopardalis	4.0	4 40 9		5.908	+ 66 5 55.8	3	6.85	
		S. P.					56.7	3	6.85	
472		Lacaille 1580	7.2	4 40 17.30	1	2.475	— 25 26		6.84	
473		Anonymous	9.5	4 40 46		3.311	+ 10 45 58.5	1	6.80	
474		B. A. C. 1482	6.7	4 40 50.42	2	2.393	— 28 20 33.0	1	6.79	
475		Anonymous	8.8	4 40 53		3.310	+ 10 42 54.9	1	6.79	
476		O. Arg. S. 3382	7.5	4 41 4		2.443	— 26 33 21.3	1	6.78	
477		O. Arg. S. 3389	7.6	4 41 29.09	4	2.355	— 29 40		6.74	
478		Weisse 926		4 43 27		3.314	+ 10 49 31.0	1	6.57	
479		Lacaille 1611	8.0:	4 43 59		2.176	— 35 20 2.0	1	6.53	
480		O. Arg. N. 5259	7.0	4 44 15.70	1	4.653	+ 51 22		6.51	
481		B. A. C. 1496		4 44 37.61	1	7.493	+ 74 2		6.48	
482		Anonymous	9.0	4 44 41		2.521	— 23 31 55.6	1	6.47	
483		Lacaille 1617		4 44 43		2.175	35 20 45.7	1	6.47	
484		O. Arg. S. 3437	7.1	4 44 52.93	5	2.416	— 27 22		6.46	
485		Anonymous	9.2	4 45 6.19	1	3.598	+ 22 33		6.44	
486		Lacaille 1615	7.0	4 45 21.84	1	2.466	— 25 34		6.42	
487		Weisse (2) 1012	9.0	4 45 27.10	1	3.597	+ 22 32		6.41	
488		Weisse 986		4 45 37		3.257	8 19 11.2	1	6.39	
489		B. A. C. 1510		4 47 3.70	1	7.452	73 51		6.28	
490		Weisse (2) 1047	9.0	4 47 13		3.736	+ 27 36 36.7	2	6.26	
491		Anonymous	7.3	4 47 14.31	3	2.312	— 30 53		6.26	
492		Weisse 1028	7.5	4 47 19.69	1	3.255	+ 8 22 10.2	1	6.25	
493	ι	Aurigæ	3.5	4 47 52.82	1	3.896	+ 32 56 26.8	1	6.21	
494		O. Arg. S. 3488	8.2	4 48 50		2.425	— 26 57 29.9	1	6.13	
495		O. Arg. S. 3492	8.0	4 49 5		2.455	25 52 49.7	1	6.11	
496		O. Arg. S. 3494	7.6	4 49 9.39	3	2.363	29 7		6.10	
497		B. A. C. 1531	7.5	4 49 44		2.452	25 57 13.8	1	6.05	
498		O. Arg. S. 3506	7.2	4 49 46.17	3	2.518	23 30		6.05	
499		O. Arg. S. 3513	7.9	4 50 14.11	2	2.396	27 56		6.01	
500		O. Arg. S. 3516	7.2	4 50 33.98	1	2.517	23 32		5.98	
501		Lacaille 1659, (1st *)	7.8	4 50 39.41	1	2.002	39 59		5.98	
502		Lacaille 1659, (2d *)	7.6	4 50 44.62	1	2.002	— 39 59		5.97	
503	β	Camelopardalis	4.5:	4 50 59		5.304	+ 60 13 55.3	4	5.95	
		S. P.					56.0	1	5.95	
504		Anonymous	7.1	4 53 2.53	3	2.360	— 29 5		5.78	
505		Anonymous	6.8	4 53 36.43	3	2.373	28 38		5.73	
506		Anonymous	7.2	4 54 10		2.467	25 16 2.2		5.68	
507		Lacaille 1678	7.0	4 54 26.45	1	2.103	37 5		5.66	
508		O. Arg. S. 3576	8.3	4 54 28.93	1	2.339	— 29 47		5.65	
509		Anonymous	9.0	4 54 38.02	1	3.205	+ 5 55		5.64	
510	ι	Tauri		4 54 43.74	1	3.497	+ 21 23		5.64	
511		Anonymous	7.8	4 56 1.42	2	2.284	— 31 32		5.53	
512		Anonymous	8.5	4 56 12.87	1	2.284	— 31 32		5.51	
513	11	Orionis		4 56 34.29	3	3.421	+ 15 12 21.3	2	5.48	
514		Lacaille 1693	7.0	4 56 47.56	3	2.292	— 31 14		5.46	
515		Lacaille 1704		4 58 5.19	1	+ 2.483	— 24 31		+ 5.35	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
516	O. Arg. S. 3630	8.5	4 58 21.00	3	+ 2.392	— 27 51		+ 5.33	
517	*m* Tauri		4 59 10.63	1	3.503	+ 18 27		5.26	
518	γ^1 Cœli	5.7	4 59 22.40	1	2.146	— 35 41		5.25	
519	ε Leporis		4 59 32.16	4	2.536	— 24 33 39.8	1	5.23	
520	B. A. C. 1565		4 59 33.94	1	9.732	+ 79 3		5.23	
521	Anonymous	8.7	4 59 38		2.502	— 23 50 26.3	2	5.22	
522	O. Arg. S. 3670	9.0	5 1 0.65	1	2.363	28 45		5.10	
523	O. Arg. S. 3680	9.5	5 1 28.02	1	2.362	— 28 46		5.07	
524	15 Orionis		5 1 41.39	1	3.428	+ 15 25		5.05	
525	O. Arg. S. 3691	8.2	5 2 9.20	3	2.350	— 29 11		5.01	
526	Weisse (2) 49	8.6	5 3 39.17	2	3.828	+ 30 16		4.88	
527	O. Arg. S. 3717	8.6	5 3 40.55	1	2.456	— 25 26		4.88	
528	O. Arg. S. 3720	8.7	5 3 43.97	2	2.453	25 33		4.88	
529	Anonymous	9.3	5 4 33.62	1	2.451	25 34		4.80	
530	Anonymous	9.4	5 4 55.37	1	2.456	25 24		4.77	
531	Lacaille 1738	7.2	5 5 3.34	1	2.436	— 26 5		4.76	
532	Weisse (2) 111	7.2	5 5 17.51	3	3.828	+ 30 14		4.74	
533	B. A. C. 1615	7.0	5 6 6.34	2	2.309	— 30 24		4.67	
534	*a* Aurigæ		5 6 21		4.413	+ 45 51 2.1	9	4.65	
535	Lacaille 1754	7.3	5 6 42		2.072	— 37 34 0.2	1	4.62	
536	Weisse 136	6.0	5 6 49.58	1	2.832	8 18 55.7	1	4.61	
537	Lacaille 1753	6.5	5 7 15.63	1	2.398	27 21		4.58	
538	Anonymous	6.8	5 7 19.64	1	2.399	27 20		4.57	
539	β Orionis		5 7 48.67	18	2.880	8 21 59.0	4	4.53	
540	O. Arg. S. 3790		5 8 37.84	1	2.393	27 30		4.46	
541	Lacaille 1770	6.8	5 9 39.80	3	2.365	28 29		4.37	
542	Lacaille 1774	7.2	5 9 55.31	2	2.321	29 55		4.35	
543	O. Arg. S. 3812	9.2	5 10 10.27	1	2.394	— 27 27		4.33	
544	*n* Tauri	6.0	5 10 51.96	1	3.598	+ 21 56		4.27	
545	O. Arg. S. 3830	7.8	5 11 40.18	5	2.394	— 27 25		4.20	
546	Anonymous	6.8	5 12 32.46	2	2.451	25 23		4.12	
547	Anonymous	7.8	5 12 33.40	2	2.450	25 25		4.12	
548	O. Arg. S. 3862	8.3	5 13 17.32	2	2.346	29 1		4.06	
549	B. A. C. 1655	6.7	5 13 48.92	3	2.389	27 31		4.01	
550	Lacaille 1806	7.3	5 15 14.41	4	2.336	29 20 54.2	1	3.89	
551	Anonymous	9.0	5 16 33.78	2	2.589	— 20 11		3.78	
552	β Tauri		5 17 26.63	19	3.785	+ 28 29 7.0	4	3.70	
553	Weisse (2) 478		5 17 30.45	1	3.576	+ 21 0		3.69	
554	B. A. C. 1688		5 17 34		2.407	— 26 50 23.0	1	3.69	
555	Lacaille 1827	7.2	5 17 57.42	2	2.254	— 31 48		3.66	
556	115 Tauri		5 19 0.19	1	3.495	+ 17 49		3.57	
557	*o* Tauri	5.8	5 19 13.62	1	3.599	+ 21 49		3.55	
558	B. A. C. 1708	6.5	5 20 33.59	1	2.791	— 12 2		3.43	
559	B. A. C. 1706		5 21 5		7.970	+ 74 56 32.2	1	3.39	
	S. P.					31.0	3	3.39	
560	O. Arg. N. 5930	7.5	5 22 55.16	1	6.751	+ 70 16		3.23	
561	Anonymous	8.5	5 22 58.76	2	2.327	— 29 27		3.22	
562	Anonymous	8.4	5 23 4.76	2	2.327	29 27		3.22	
563	Anonymous	8.1	5 24 42.86	2	2.354	28 31		3.07	
564	δ Orionis		5 24 51.33	10	3.063	0 25		3.06	
565	Weisse 603		5 24 51.35	1	3.063	0 23		3.06	
566	Anonymous	7.7	5 25 32.17	1	2.356	28 26		3.00	
567	*a* Leporis		5 26 33.40	4	2.644	— 17 56		2.92	
568	Anonymous	8.5	5 27 5.42	1	3.190	+ 5 6		2.87	
569	O. Arg. S. 4060	6.8	5 27 19.49	3	2.441	— 25 29		2.85	
570	Anonymous	9.0	5 28 3.03	1	2.190	+ 5 5		2.79	
571	ε Orionis		5 29 6.64	13	3.042	— 1 17 39.1	2	2.69	
572	O. Arg. N. 6031	8.4	5 29 15.54	2	6.490	+ 68 48		2.68	
573	ζ Tauri		5 29 16.73	1	3.582	22 20		2.68	
574	Anonymous	4.0	5 29 18.83	1	3.189	+ 5 3		2.67	
575	Anonymous		5 29 25.57	1	3.041	— 1 20		2.67	
576	O. Arg. S. 4102	8.3	5 29 49.43	1	2.389	— 27 16		2.63	
577	O. Arg. N. 6052	8.7	5 30 22.83	2	6.487	+ 68 48		2.58	
578	Weisse 776	6.8	5 31 7.52	2	3.042	— 1 18		2.52	
579	B. A. C. 1783	6.5	5 31 44.75	1	2.368	27 58		2.47	
580	Lacaille 1916	7.8	5 32 13.32	2	+ 2.270	— 31 8		+ 2.43	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Procession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
581	Anonymous	7.3	5 32 23.48	2	+ 2.336	— 29 2		+ 2.42	
582	Anonymous		5 32 47		3.588	+ 21 14 53.3	1	2.38	
583	*a* Columbæ		5 34 34.85	3	2.171	— 34 9		2.22	
584	Anonymous	8.2	5 35 21.27	2	2.437	25 33		2.15	
585	O. Arg. S. 4213	6.9	5 35 28.77	1	2.310	29 48		2.14	
586	Lacaille 1946	7.5	5 35 40.41	1	2.411	— 26 24		2.13	
587	O. Arg. N. 6159	7.1	5 35 56.76	3	6.986	+ 71 14		2.10	
588	O. Arg. S. 4237	7.8	5 36 47.89	4	2.644	— 17 51		2.03	
589	O. Arg. S. 4263	7.7	5 38 39.60	3	2.566	20 46		1.86	
590	Anonymous	8.0	5 38 43.84	2	2.282	30 41		1.86	
591	O. Arg. S. 4294	7.3	5 39 57.57	2	2.377	27 33		1.75	
592	Lacaille 1977	6.7	5 39 58.20	2	2.249	— 31 43		1.75	
593	Anonymous	9.6	5 41 22.10	2	3.714	+ 25 46		1.63	
594	Lacaille 1990	6.5	5 41 36.46	3	2.343	— 28 41		1.61	
595	O. Arg. N. 6250	9.0	5 42 19.70	1	7.065	+ 71 32		1.54	
596	(* 94) W.	9.2	5 43 41.84	2	3.714	+ 25 43		1.42	
597	O. Arg. S. 4355	7.9	5 43 58.50	4	2.410	— 26 24		1.40	
598	B. A. C. 1860	6.6	5 44 2.69	1	2.505	23 1		1.40	
599	O. Arg. S. 4395	6.6	5 46 26.46	2	2.422	25 59		1.18	
600	Lacaille 2033	6.5	5 46 34.00	4	2.318	— 29 28		1.18	
601	*a* Orionis		5 47 35.60	21	3.564	+ 7 22 40.8	7	1.08	
602	Anonymous	9.0	5 49 9.36	1	2.334	— 28 56		0.96	
603	O. Arg. N. 6362	7.8	5 49 36.02	1	7.334	+ 72 36		0.91	
604	O. Arg. S. 4453	7.5	5 50 7.92	4	2.333	— 28 58		0.86	
605	Anonymous	7.2	5 50 14.10	2	2.303	29 55		0.85	
606	Anonymous	7.7	5 50 15.77	1	2.302	— 29 58		0.85	
607	O. Arg. N. 6390	8.9	5 51 25.47	2	7.260	+ 72 18		0.75	
608	O. Arg. S. 4474	7.7	5 51 31.46	2	2.338	— 28 47		0.74	
609	O. Arg. S. 4481	8.3	5 51 46.32	2	2.335	28 54		0.72	
610	O. Arg. S. 4499	7.4	5 52 48.71	3	2.327	29 8		0.63	
611	Lacaille 2085	7.0	5 52 50.65	1	2.154	34 29		0.63	
612	Lacaille 2090	7.3	5 53 54.38	1	2.154	34 22		0.53	
613	O. Arg. S. 4527	7.5	5 54 37.20	5	2.335	29 13		0.47	
614	O. Arg. S. 4534	7.8	5 54 57.39	5	2.364	— 27 54		0.44	
615	χ^3 Orionis		5 55 10.06	1	3.550	+ 19 41		0.42	
616	Anonymous	9.5	5 56 30.23	1	7.604	+ 73 33		0.31	
617	B. A. C. 1946	5.7	5 57 37.12	1	2.411	— 26 17		0.21	
618	(* 116) W.	9.1	5 57 45.46	3	7.610	+ 73 35		0.19	
619	Anonymous	8.8	5 59 8.45	4	2.344	— 28 35		0.07	
620	Lacaille 2122	7.7	5 59 10		2.360	28 3 12.4	1	0.07	
621	Anonymous	7.8	5 59 10.99	4	2.344	— 28 35		0.07	
622	*ν* Orionis		5 59 34.73	7	3.425	+ 14 46 52.8	1	+ 0.04	
623	Lacaille 2126	6.8	5 59 59.33	1	2.472	— 24 10		0.00	
624	Anonymous	8.0	6 0 46		2.490	23 31 41.4	1	— 0.07	
625	O. Arg. S. 4680	7.8	6 2 6.13	2	2.281	— 30 36		0.18	
626	Lalande 11684	7.5	6 2 11.54	1	3.725	+ 26 2		0.19	
627	*π* Columbæ	6.5	6 2 17		1.542	— 42 16 57.8	1	0.20	
628	Lalande 11714	8.5	6 3 3.23	1	3.725	+ 26 1		0.27	
629	Lacaille 2163	6.8	6 4 12.14	2	2.268	— 31 1		0.37	
630	B. A. C. 1995	6.2	6 5 0.36	1	2.387	27 7 31.1	1	0.44	
631	B. A. C. 1997	6.9	6 5 36.58	1	2.407	26 27		0.49	
632	Lacaille 2177	7.4	6 5 53.21	1	2.390	— 27 1 39.6	1	0.51	
633	*η* Geminorum		6 6 25.56	2	3.627	+ 22 32 37.9	1	0.56	
634	Lacaille 2180	6.5	6 6 29.02	1	2.374	— 26 0		0.57	
635	Weisse (2) 169	7.5	6 7 26.93	1	4.232	+ 40 56		0.65	
636	Lacaille 2189	6.7	6 7 30.18	2	2.348	— 28 25 45.9	1	0.66	
637	Lacaille 2190	7.2	6 7 58.22	1	2.482	— 23 49 45.6	2	0.70	
638	O. Arg. N. 6682	7.7	6 8 10.26	1	7.578	+ 73 30		0.71	
639	O. Arg. S. 4851	8.5	6 8 59.22	1	2.344	— 28 36		0.79	
640	O. Arg. S. 4861	8.0	6 9 26.65	1	2.341	28 42		0.83	
641	Anonymous	9.0	6 9 30.49	1	2.357	28 10		0.83	
642	Lacaille 2208	7.3	6 11 25.80	1	2.478	24 1 28.8	2	1.00	
643	Anonymous	9.5	6 12 46.37	1	2.334	28 57		1.12	
644	O. Arg. S. 4961	7.3	6 13 43.18	1	2.334	— 28 57		1.20	
645	*μ* Geminorum		6 14 29.48	2	+ 3.627	+ 22 34 54.5	1	— 1.27	

Number.		Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
646		Lacaille 2226	8.0	6 14 44		— 2.491	— 23 34 30.7	1	— 1.29	
647	8	Monoceratis	5.5	6 16 21.08	1	3.181	+ 4 39 38.5	1	1.43	
648		B. A. C. 2060	7.5	6 16 21.36	1	3.181	+ 4 40		1.43	
649		O. Arg. S. 5082	5.8	6 19 17.48	1	2.342	— 28 42		1.69	
650	11	Monoceratis, (1st *)		6 22 1.91	1	2.909	6 56 51.6	1	1.92	
651	11	Monoceratis, (2d *)	5.7	6 22 2.20	1	2.909	— 6 56 45.9	1	1.92	
652		B. A. C. 2095		6 22 20		10.395	+ 79 42 14.5	2	1.95	
		S. P.					14.4	3	1.95	
653		B. A. C. 2127	6.9	6 24 13.49	1	2.375	— 27 40		2.11	
654		Anonymous	9.0	6 25 13.64	1	2.307	29 56		2.20	
655		O. Arg. S. 5251	7.4	6 26 30.22	2	2.330	— 29 12		2.31	
656		Lalande 12614	7.1	6 27 46.64	2	3.467	+ 16 35		2.42	
657		O. Arg. S. 5289	7.0	6 28 1.13	1	2.419	— 26 13		2.44	
658	γ	Geminorum		6 29 37.43	15	3.465	+ 16 30 54.3	3	2.58	
659		O. Arg. S. 5343	8.5	6 30 15		2.495	— 24 0 23.4	1	2.64	
660		Lacaille 2355	7.5	6 30 40.92	1	2.346	28 42		2.68	
661		Lacaille 2366	8.2	6 31 34.93	2	2.350	28 34		2.75	
662		O. Arg. S. 5410	8.0	6 32 26.25	1	2.378	27 40		2.83	
663		O. Arg. S. 5415	7.6	6 32 33.19	2	2.498	23 27		2.84	
664		Anonymous	8.5	6 33 15.76	1	2.379	— 27 38		2.90	
665	51	Cephei		6 33 38.97	15	30.591	+ 87 14 55.6	2	2.93	
		S. P.					52.8	1	2.93	
666		O. Arg. S. 5450	7.1	6 33 46.81	2	2.496	— 23 33		2.95	
667		Lacaille 2388	6.1	6 34 20.95	3	2.298	— 30 20		2.99	
668	ε	Geminorum		6 35 19.05	1	3.696	+ 25 16		3.08	
669		O. Arg. S. 5519	7.5	6 36 4.25	1	2.378	— 27 44		3.14	
670		Anonymous	7.7	6 36 36.38	1	2.503	23 19		3.19	
671		Anonymous	7.7	6 37 2.26	2	2.263	31 31		3.22	
672		O. Arg. S. 5574	7.7	6 37 38.73	1	2.339	29 5		3.28	
673	α	Canis Majoris		6 38 58.65	23	2.681	16 31 42.3	21	3.39	
674		O. Arg. S. 5615	7.2	6 39 16.70	2	2.394	27 12		3.42	
675		O. Arg. S. 5654	8.2	6 40 28.52	1	2.352	28 39		3.53	
676		O. Arg. S. 5665	8.2	6 40 50.13	1	2.330	29 24		3.55	
677		O. Arg. S. 5704	8.5	6 42 19.78	3	2.421	26 22		3.68	
678		O. Arg. S. 5732	7.0	6 43 24.97	1	2.327	29 34		3.77	
679		Lacaille 2461	7.5	6 43 49.09	1	2.488	23 59 7.1	1	3.81	
680		Lacaille 2462	7.0	6 43 54		2.490	23 55 2.5	1	3.82	
681		O. Arg. S. 5745	7.0	6 43 56.21	3	2.360	28 28		3.82	
682		Anonymous		6 44 18.17	1	2.241	32 22		3.85	
683		B. A. C. 2244	7.6	6 44 30.18	1	2.398	27 10		3.87	
684	χ	Canis Majoris		6 44 36.63	1	2.241	32 20		3.88	
685		Lacaille 2473	6.9	6 44 54.79	1	2.444	25 37		3.90	
686		B. A. C. 2251	6.8	6 45 5.79	1	2.267	31 33		3.92	
687		Anonymous	8.0	6 45 8.84	1	2.267	31 33		3.93	
688		Anonymous	8.2	6 45 28.41	1	2.359	28 32		3.95	
689		O. Arg. S. 5790	7.9	6 45 34.62	1	2.401	27 6		3.96	
690		Anonymous	7.7	6 46 46.36	2	2.309	30 15		4.06	
691		B. A. C. 2266	6.7	6 47 59.70	2	2.367	28 21		4.17	
692		Lacaille 2519	7.4	6 49 2.73	5	2.268	31 36		4.26	
693		O. Arg. S. 5906	7.3	6 49 45.30	2	2.353	28 52		4.32	
694		Lacaille 2528	7.2	6 50 37.12	4	2.269	31 36		4.39	
695		O. Arg. S. 2961	7.0	6 52 6.85	1	2.398	27 21		4.52	
696		Lacaille 2544	7.5	6 52 45.62	1	2.501	23 41		4.57	
697		Lacaille 2549	7.0	6 52 45.87	3	2.303	30 34		4.57	
698	ε	Canis Majoris		6 53 7.53	3	2.357	28 47 1.7	2	4.61	
699		Lacaille 2553		6 53 22.19	1	2.296	30 49		4.63	
700		B. A. C. 2298	9.0	6 53 32		2.358	28 46 21.7	1	4.64	
701		O. Arg. S. 6004		6 53 34.87	1	2.358	28 46		4.65	
702		Lacaille 2566	6.8	6 54 48.43	3	2.292	30 58		4.75	
703		Anonymous	8.1	6 54 52.73	3	2.296	— 30 52		4.75	
704		Weisse (2) 1675	8.5	6 55 47.27	1	3.554	+ 20 48		4.83	
705		Lacaille 2579	7.1	6 55 47.42	1	2.310	— 30 29		4.83	
706	ζ	Geminorum	4.0	6 55 48.25	2	3.564	+ 20 46		4.83	
707	44	Geminorum		6 56 52.72	1	3.618	+ 22 50 38.5	1	4.92	
708	γ	Canis Majoris		6 57 25.43	4	2.714	— 15 25 44.7	1	4.97	
709		Lacaille 2610	6.5	7 0 36.53	1	2.313	30 27		5.24	
710		O. Arg. S. 6232	7.2	7 1 19.60	1	— 2.431	— 26 27		— 5.30	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
711	B. A. C. 2326	5.2	7 1 24		+ 13.074	+ 82 40 5.5	3	— 5.31	
	S. P.					5.0		5.31	
712	τ Geminorum		7 2 13.52	1	3.830	+ 30 28		5.38	
713	Anonymous	8.4	7 2 38.43	1	2.293	— 31 11		5.41	
714	Lacaille 2637	7.7	7 2 49.51	1	2.293	— 31 11		5.43	
715	O. Arg. N. 7623	7.0	7 3 53.16	1	9.394	+ 78 30		5.52	
716	Lacaille 2643	7.8	7 4 28.13	1	2.374	— 28 31		5.57	
717	B. A. C. 2371	6.9	7 6 40.42	1	2.315	— 30 35		5.75	
718	O. Arg. N. 7681	8.8	7 7 9.86	1	9.742	+ 79 9		5.79	
719	Anonymous	7.5	7 7 27.11	1	2.416	— 27 8		5.82	
720	O. Arg. S. 6431	6.3	7 7 58.00	1	2.417	27 7		5.86	
721	B. A. C. 2394	7.4	7 9 12.37	1	2.322	30 25		5.96	
722	O. Arg. S. 6489		7 9 44.37	1	2.390	28 7		6.01	
723	Lacaille 2684	7.5	7 9 53		2.518	23 29 50.5	1	6.02	
724	B. A. C. 2399	6.7	7 9 56.05	1	2.322	— 30 27		6.02	
725	λ Geminorum		7 10 2.69	1	3.457	+ 16 47		6.03	
726	B. A. C. 2320, S. P.		7 10 8.49	1	77.898	89 0		6.04	
727	O. Arg. N. 7755	7.6	7 11 9.22	1	9.601	78 58		6.13	
728	δ Geminorum		7 11 45.56	2	3.592	+ 22 14 12.9	1	6.18	
729	Anonymous	8.1	7 12 47.98	2	2.350	— 29 37		6.26	
730	Anonymous	8.3	7 12 48.24	1	2.321	30 36		6.26	
731	B. A. C. 2428	7.0	7 14 1.08	1	2.234	33 28		6.36	
732	Lacaille 2741	6.6	7 14 50.94	1	2.442	26 26		6.43	
733	Lacaille 2753	7.0	7 15 31.81	1	2.275	32 12		6.49	
734	Weisse 461	8.0	7 15 33		2.737	14 49 22.0	1	6.49	
735	B. A. C. 2443	7.0	7 16 50.06	1	2.273	32 20		6.60	
736	Lacaille 2762	7.7	7 16 56		2.463	25 44 42.9	1	6.61	
737	Anonymous	8.5	7 16 58.35	1	2.273	32 20		6.61	
738	Anonymous	8.1	7 17 14.93	3	2.314	31 1		6.63	
739	Anonymous	7.5	7 17 15		2.734	— 14 56 44.2	1	6.63	
740	Anonymous	9.0	7 17 23.51	2	3.304	+ 10 25		6.64	
741	O. Arg. S. 6734	5.9	7 17 50.73	2	2.414	— 27 34		6.68	
742	Anonymous	7.0	7 18 10.68	1	2.312	31 3		6.71	
743	O. Arg. S. 6748	6.8	7 18 20.32	1	2.374	29 1		6.72	
744	η Canis Majoris	2.5	7 18 33.52	1	2.373	29 2		6.74	
745	Anonymous	7.5	7 19 0		2.736	14 57 51.5	1	6.78	
746	Lacaille 2792	7.0	7 19 35		2.487	24 56 37.0	1	6.83	
747	Anonymous	8.5	7 19 50.98	1	2.337	30 19		6.85	
748	Anonymous	9.0	7 19 56		2.742	14 41 54.8	1	6.85	
749	O. Arg. S. 6810	7.4	7 20 22.90	2	2.446	— 26 31		6.89	
750	6 Canis Minoris		7 21 59.81	1	3.345	+ 12 18		7.02	
751	O. Arg. S. 6858	7.1	7 22 12.97	2	2.403	— 28 5		7.04	
752	Lacaille 2813	6.9	7 22 19.28	3	2.445	26 35		7.05	
753	Anonymous	6.0	7 22 58		2.744	— 14 42 12.2	1	7.10	
754	Lalande 14620	5.5	7 23 43.99	1	3.463	+ 17 23		7.17	
755	Anonymous	7.8	7 23 45.93	1	2.608	— 20 24		7.17	
756	O. Arg. S. 6907	8.5	7 23 46.87	1	2.346	30 21		7.17	
757	Anonymous	8.0	7 24 11		2.494	24 51 25.9	1	7.20	
758	O. Arg. S. 6941	8.3	7 24 50.44	2	2.409	28 34		7.26	
759	O. Arg. S. 6946	8.6	7 24 54.45	2	2.393	28 33		7.26	
760	O. Arg. S. 6948	8.0	7 25 8.10	1	2.414	27 48		7.28	
761	O. Arg. S. 6949	8.3	7 25 8.32	1	2.414	— 27 49		7.28	
762	68 Geminorum		7 25 36.85	2	2.432	+ 16 8		7.32	
763	a^1 Geminorum		7 25 39.21	5	3.856	32 11 26.5	1	7.32	
764	a^2 Geminorum		7 25 39.74	12	3.856	+ 32 11 29.5	2	7.32	
765	Lacaille 2852	7.2	7 28 8.10	1	2.264	— 33 6		7.55	
766	Lacaille 2859	6.5	7 28 56.34	1	2.263	33 9		7.59	
767	O. Arg. S. 7063	7.7	7 29 13.99	2	2.473	29 6		7.61	
768	Anonymous	8.7	7 30 2.83	2	2.369	29 40		7.68	
769	Anonymous	8.6	7 30 13.48	2	2.367	29 44		7.69	
770	Lacaille 2870		7 30 42.44	1	2.496	25 1		7.73	
771	Anonymous	8.0	7 31 7.16	1	2.332	30 59		7.76	
772	O. Arg. S. 7131	7.3	7 31 23.10	1	2.442	27 6		7.79	
773	Anonymous	8.3	7 31 51.32	1	2.367	— 29 48		7.82	
774	α Canis Minoris		7 31 58.34	23	3.192	+ 5 34 46.4	5	7.84	
775	m Puppis	5.0	7 32 24		+ 2.498	— 25 2 57.8	1	— 7.87	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
776	B. A. C. 2526	6.0	7 32 40.61	1	+ 3.191	+ 5 33		— 7.89	
777	Anonymous	9.0	7 33 19.09	1	2.367	— 29 52		7.94	
778	Anonymous	7.5	7 33 33		2.528	23 54 40.1	1	7.96	
779	Anonymous	7.8	7 34 6		2.230	34 29 37.6	1	8.00	
780	O. Arg. S. 7224	7.3	7 34 32.76	3	2.369	29 51		8.04	
781	Lalande 5006		7 34 53		2.528	33 57 4.5	1	8.07	
782	O. Arg. S. 7239	7.0	7 35 3.03	3	2.432	27 37		8.08	
783	O. Arg. S. 7286	7.0	7 36 34.67	3	2.372	29 51		8.20	
784	O. Arg. S. 7289	9.1	7 36 38.81	1	2.434	— 27 36		8.21	
785	β Geminorum		7 36 44.69	18	3.731	+ 28 21 39.3	1	8.21	
786	Lacaille 2929	8.0	7 37 46		2.500	— 25 10 20.3	1	8.22	
787	Lacaille 2941	7.0	7 38 43.21	1	2.332	31 20		8.37	
788	O. Arg. S. 7326	7.7	7 39 35.33	3	2.458	26 51		8.44	
789	Lacaille 2952	7.3	7 39 57.09	1	2.535	23 54		8.47	
790	Anonymous	7.6	7 40 3.17	1	2.535	23 54		8.48	
791	Anonymous	6.0	7 40 5.98	1	2.538	23 46		8.48	
792	B. A. C. 2581	6 5	7 40 21.72	1	2.259	33 54		8.50	
793	Anonymous	9.3	7 40 32.01	1	2.448	27 16		8.52	
794	O. Arg. S. 7444		7 42 3.62	1	2.370	30 12		8.64	
795	O. Arg. S. 7443	9.5	7 42 4.18	1	2.537	23 55		8.64	
796	O. Arg. S. 7445	9.0	7 42 4.69	1	2.450	— 27 17		8.64	
797	B. A. C. 2590, S. P.		7 42 35		9.806	+ 79 51 8.3	1	8.68	
798	O. Arg. S. 7464	8.1	7 42 48.36	3	2.466	— 26 42		8.70	
799	O. Arg. S. 7465	7.9	7 42 50.09	4	2.468	26 39		8.70	
800	O. Arg. S. 7470		7 43 5.37	1	2.365	30 25		8.72	
801	O. Arg. S. 7473	7.8	7 43 11.91	1	2.379	— 29 55		8.73	
802	B. A. C. 2606	6.5	7 44 24		4.303	+ 47 44 38.9	2	8.82	
803	ϕ Geminorum		7 44 55.45	3	3.686	+ 27 7		8.86	
804	Lacaille 3012	6.0	7 45 5.30	1	2.534	— 24 9		8.88	
805	Anonymous	9.0	7 46 32.08	2	2.489	26 4		8.99	
806	Anonymous	7.6	7 47 16.29	4	2.490	26 4		9.05	
807	Lacaille 3041	7.2	7 48 0.31	1	2.494	25 54		9.11	
808	Anonymous	7.2	7 48 9.91	4	2.492	25 59		9.12	
809	Anonymous	7.3	7 48 21.24	1	2.496	— 25 49		9.13	
810	O. Arg. N. 8445		7 48 23		4.356	+ 47 10 55.3	1	9.13	
811	O. Arg. S. 7636	6.5	7 48 43.09	1	2.447	— 27 44		9.16	
812	Anonymous	7.5	7 49 27.24	1	2.492	— 26 4		9.22	
813	O. Arg. N. 8459	7.2	7 49 36.19	1	4.344	+ 46 59 43.5	2	9.23	
814	Anonymous	7.0	7 49 42.12	2	2.372	— 30 32		9.24	
815	Anonymous	7.7	7 51 47.98	2	2.313	32 44		9.40	
816	Lacaille 3086		7 52 13		2.009	42 1 1.1	1	9.43	
817	O. Arg. S. 7758	6.6	7 52 53.01	2	2.467	27 12		9.48	
818	Anonymous	7.7	7 52 58		2.178	— 37 12 13.4	2	9.49	
819	5 Cancri		7 53 31.51	1	3.428	+ 16 50		9.53	
820	Anonymous	7.3	7 53 47.75	2	2.447	— 28 2		9.55	
821	6 Cancri		7 54 54.88	5	3.700	+ 28 11 0.9	1	9.64	
822	O. Arg. S. 7865	7.5	7 56 25		2.523	— 25 40 38.3	1	9.75	
823	O. Arg. S. 7882		7 57 10		2.548	24 12 46.1	1	9.81	
824	Anonymous	7.5	7 57 49		2.513	— 25 37 53.1	1	9.86	
825	Lacaille 3127	6.7	7 58 39.61	1	2.523	+ 25 18 15.8	1	9.93	
826	O. Arg. S. 7951	8.7	7 59 22.11	1	2.415	— 29 33		9.98	
827	12 Cancri		8 0 52.92	1	3.361	+ 14 3		10.09	
828	ρ Argus		8 1 34.94	2	2.568	— 23 49 9.9	2	10.15	
829	O. Arg. S. 8072	8.3	8 2 42.32	1	2.561	23 58 50.4	1	10.23	
830	Lacaille 3168	6.2	8 3 28		2.199	37 16 27.2	1	10.29	
831	O. Arg. S. 8108	6.4	8 3 28.79	1	2.412	— 29 55		10.29	
832	ζ Cancri, (1st *)		8 4 10.74	2	3.446	+ 18 4		10.34	
833	ζ Cancri, (2d *)		8 4 11.12	2	3.446	+ 18 4		10.34	
834	O. Arg. S. 8165	8.0	8 4 45.38	1	2.417	— 29 49		10.39	
835	O. Arg. S. 8169	7.0	8 5 5.16	1	2.419	29 44		10.41	
836	O. Arg. S. 8199		8 6 15.74	1	2.420	29 48		10.50	
837	Lacaille 3201	6.0	8 6 55		2.071	41 22 17.8	1	10.55	
838	Anonymous	8.0	8 8 42.00	1	2.496	26 59		10.68	
839	O. Arg. S. 8280	7.0	8 9 23.40	1	2.408	30 26		10.73	
840	O. Arg. S. 8291	8.5	8 10 6.22	1	+ 2.551	— 24 48 25.3	1	— 10.78	

Number.		Name	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
841		Lacaille 3229	7.6	8 10 19.03	1	+ 2.428	— 29 45		— 10.80	
842		O. Arg. S. 8338		8 11 45.28	1	2.550	24 56		10.90	
843		O. Arg. S. 8343		8 11 48.36	1	2.552	24 53		10.91	
844		O. Arg. S. 8345		8 11 57.40	1	2.551	24 56		10.92	
845		Lacaille 3248	6.7	8 11 58.02	1	2.359	— 32 26		10.92	
846	λ	Cancri		8 12 16		3.581	+ 24 27 36.0	1	10.94	
847		Lacaille 3257	5.2	8 12 56.71	2	2.289	— 35 0		10.99	
848		Anonymous	7.6	8 13 51.00	1	2.512	26 39		11.06	
849		Lacaille 3262	6.0	8 14 2		2.316	34 9 9.5	1	11.07	
850		Lacaille 3267	7.1	8 14 27.26	2	2.411	30 42		11.10	
851		Lacaille 3279	7.1	8 16 19.45	2	2.478	28 11		11.24	
852		Anonymous	6.6	8 16 49.54	2	2.468	29 13		11.28	
853		B. A. C. 2811	6.5	8 16 53		2.535	25 54 5.4	1	11.28	
854		Lacaille 3290		8 17 9.08	1	2.388	31 10		11.30	
855		Lacaille 3299	6.4	8 18 0.66	1	2.438	— 29 55		11.36	
856		Dorpat 1224, (1st *)	7.3	8 18 19.83	1	3.585	+ 24 59		11.38	
857		Dorpat 1224, (2d *)	7.8	8 18 20.14	1	3.585	24 59		11.38	
858	o	Ursæ Majoris		8 18 36		5.073	61 10 54.0	1	11.40	
859		Weisse (2) 458	7.7	8 20 10.27	1	3.582	+ 25 0		11.52	
860		Anonymous	6.8	8 20 24.01	3	2.522	— 26 42		11.54	
861		Lacaille 3316		8 20 25.50	1	2.394	— 31 47		11.54	
862	29	Cancri		8 20 48.14	1	3.358	+ 14 40		11.56	
863		B. A. C. 2838		8 20 56		2.099	— 41 41 50.6	1	11.57	
864		Anonymous	6.8	8 21 13.39	1	2.403	31 32		11.59	
865		Anonymous	7.0	8 21 34		2.412	31 12 45.8	1	11.61	
866		B. A. C. 2843		8 21 38.87	1	2.411	31 13		11.62	
867		Anonymous	7.5	8 21 56		2.322	34 33 18.1	1	11.64	
868		Lacaille 3331	6.6	8 22 1.01	1	2.405	31 31		11.65	
869		O. Arg. S. 8581	7.4	8 22 20.49	2	2.516	27 6		11.67	
870		Anonymous	9.0	8 22 42.89	1	2.490	28 12		11.70	
871		Anonymous	7.0	8 23 16.26	1	2.491	28 11		11.73	
872		Lacaille 3341	6.8	8 23 22.17	1	2.491	28 13		11.74	
873		O. Arg. S. 8620	7.5	8 24 8.59	1	2.452	— 29 51		11.80	
874	η	Cancri		8 24 36.48	4	3.484	+ 20 55		11.83	
875		Lacaille 3356	5.6	8 24 51.69	1	2.406	— 31 42		11.85	
876		Anonymous	7.5	8 25 23.87		2.419	31 15		11.89	
877		O. Arg. S. 8654	7.3	8 25 27		2.565	25 12 41.7	1	11.89	
878		Anonymous	7.0	8 26 24.13	1	2.425	31 5		11.96	
879		Anonymous	8.2	8 26 52.64	1	2.407	31 49		11.99	
880		Anonymous	7.6	8 27 17.09	2	2.602	— 23 42		12.02	
881		B. A. C. 2889, (1st *)	6.4	8 28 24.24	1	3.205	+ 7 6 22.0	1	12.10	
882		B. A. C. 2889, (2d *)	6.9	8 28 24.54	1	3.205	7 6 31.9	1	12.10	
883	c^1	Cancri	6.5	8 29 30.17	2	3.262	+ 10 8		12.17	
884		Anonymous	7.3	8 29 33.57	2	2.438	— 30 47		12.18	
885		B. A. C. 2899		8 29 44		3.453	+ 19 45 9.5	3	12.19	
886		Lalande 16960, (2d *)	7.1	8 30 4.45	1	3.209	+ 7 13		12.21	
887		Lacaille 3419	7.4	8 30 35.10	1	2.438	— 30 51		12.25	
888		B. A. C. 2910	7.2	8 31 5.59	1	2.558	25 56		12.28	
889		O. Arg. S. 8776	7.7	8 31 14.94	1	2.606	— 23 49		12.29	
890		Anonymous		8 32 17		3.452	+ 19 50 29.0	3	12.36	
891		O. Arg. S. 8806	7.7	8 32 20.80	1	2.559	— 25 57		12.37	
892	b	Mali	4.0	8 34 37.46	1	2.346	34 49		12.53	
893		Anonymous		8 34 37.62	1	2.428	31 40		12.53	
894		O. Arg. S. 8856	8.0	8 34 40.50	1	2.543	26 53		12.53	
895		O. Arg. S. 8887	7.5	8 36 26.89	1	2.616	23 43	3	12.65	
896		Lacaille 3474	7.9	8 37 14.08	1	2.498	29 1		12.70	
897		Lacaille 3485	6.5	8 37 29.67	1	2.336	35 27		12.72	
898		Anonymous	8.2	8 37 57.21	1	2.410	32 40		12.75	
899	a	Mali	5.0	8 37 58.10	1	2.410	32 41		12.75	
900		Weisse 986	7.0	8 38 15		3.034	2 5 40.3	1	12.77	
901		Lacaille 3500	7.0	8 39 15.22	1	2.466	— 30 28		12.84	
902	ε	Hydræ		8 39 21.60	4	3.197	+ 6 55 48.0	1	12.85	
903		O. Arg. S. 8946	9.0	8 39 24.43	1	2.548	— 27 3		12.85	
904		Lacaille 3509	7.5	8 40 9		2.571	26 6 12.5	1	12.90	
905		Lacaille 3511	9.0	8 40 25		+ 2.571	— 26 7 6.9	1	— 12.92	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		s.	
906	Weisse 1050	7.5	8 40 49.20	1	+ 3.179	+ 5 58		— 12.95	
907	O. Arg. S. 8993		8 41 23.28	1	2.547	— 27 15		12.98	
908	Weisse 1077	8.0	8 42 11.55	1	3.179	+ 5 59		13.04	
909	Lacaille 3531	7.0	8 42 12.95	1	2.415	— 32 53		13.04	
910	Anonymous	7.0	8 43 21.62	1	2.297	37 27		13.11	
911	Lacaille 3546	8.0	8 43 40.94	1	2.479	30 24 51.3	1	13.14	
912	Anonymous	7.3	8 43 46.68	2	2.541	27 44		13.14	
913	B. A. C. 3005	6.4	8 44 10.17	1	2.515	28 56		13.17	
914	Lacaille 3552	7.7	8 44 35		2.494	29 53 47.9	1	13.19	
915	Lacaille 3561	8.0	8 44 37		2.190	41 13 21.5	1	13.20	
916	Anonymous		8 44 40.72	1	2.155	42 20		13.20	
917	Lacaille 3564	7.3	8 45 29.05	1	2.597	33 55		13.26	
918	Lacaille 3567	7.3	8 46 0.24	1	2.559	27 7		13.29	
919	Anonymous	7.7	8 46 3.21	1	2.195	41 14		13.29	
920	Anonymous	9.0	8 47 22.59	1	2.480	30 45		13.38	
921	O. Arg S. 9127	7.7	8 48 18.50	2	2.482	30 43		13.44	
922	Lacaille 3582	7.0	8 48 25.51	2	2.461	31 37		13.45	
923	17 Hydræ, (N. *)	7.5	8 48 37.90	2	2.943	7 26 11.7	1	13.46	Noted as having the same right ascension.
924	17 Hydræ, (S. *)	7.5	8 48 37.90	2	2.943	7 26 17.3	1	13.46	
925	Weisse 1274	8.9	8 49 35.93	1	2.944	— 7 25		13.52	
926	ι Ursæ Majoris		8 49 36		4.192	+ 48 35 17.5	3	13.52	
927	Anonymous	7.2	8 49 47.14	2	2.502	— 30 0		13.53	
928	O. Arg. S. 9154	7.9	8 49 47.22	2	2.487	30 39		13.53	
929	O. Arg. S. 9155	7.9	8 49 47.67	2	2.485	30 45		13.53	
930	Anonymous	6.8	8 49 55.25	1	2.309	37 45		13.54	
931	Anonymous		8 50 44		2.505	— 29 59 25.0	2	13.60	
932	α Cancri		8 50 49.66	2	3.288	+ 12 24		13.60	
933	O. Arg. S. 9178	8.2	8 50 58.70	1	2.501	— 30 10		13.61	
934	Lacaille 3607	7.7	8 51 32.89	1	2.567	27 10		13.65	
935	Lacaille 3617	7.2	8 52 59.96	3	2.476	31 26		13.74	
936	Lacaille 3621	6.1	8 53 43.07	3	2.571	27 16		13.79	
937	O. Arg. S. 9243	7.0	8 54 42.41	2	2.650	23 36		13.85	
938	Anonymous	6.7	8 55 4.84	2	2.581	26 57		13.87	
939	B. A. C. 3082		8 55 7.11	1	2.599	26 7		13.87	
940	O. Arg. S. 9258	7.8	8 55 35.80	1	2.625	24 53		13.90	
941	Anonymous	8.0	8 56 4.40	1	2.576	27 17		13.94	
942	O. Arg. S. 9276	7.1	8 56 43.36	3	2.508	30 28 0.6	1	13.98	
943	B. A. C. 3096	6.9	8 57 1.01	3	2.626	— 24 57		14.00	
944	σ^2 Ursæ Majoris		8 58 1		5.397	+ 67 41 56.6	1	14.06	
	S. P.					54.3	3	14.06	
945	O. Arg. S. 9310	7.8	8 58 30.79	1	2.597	— 26 32		14.09	
946	O. Arg. S. 9321	7.5	8 58 52.80	1	2.656	— 23 38		14.11	
947	κ Cancri		9 0 9.67	13	3.260	+ 11 14		14.19	
948	O. Arg. S. 9344	7.2	9 0 18.51	1	2.659	— 23 36		14.20	
949	Anonymous	8.2	9 1 27.35	1	2.500	31 20		14.27	
950	Anonymous		9 2 0.48	2	2.498	— 31 30		14.31	
951	Weisse (2) 10		9 2 10.07	1	3.549	+ 26 58		14.32	
952	Anonymous	9.0	9 2 25		2.668	— 23 19 45.4	1	14.33	
953	Lacaille 3700	6.4	9 3 37.12	4	2.551	29 15		14.40	
954	ε Mali	6.0	9 4 0.55	2	2.540	29.48		14.43	
955	Anonymous	7.1	9 5 48.16	3	2.587	27 46		14.53	
956	B. A. C. 3143	5.8	9 6 13.80	2	2.336	38 41 15.9	1	14.56	
957	Lacaille 3718	6.4	9 6 21.17	2	2.576	28 23		14.57	
958	Lacaille 3725	7.2	9 7 1.46	2	2.532	30 29		14.61	
959	O. Arg. S. 9481	5.7	9 7 22.10	2	2.563	— 29 5		14.63	
960	π^2 Cancri		9 7 29.82	1	3.326	+ 15 31		14.64	
961	O. Arg. S. 9488	7.2	9 7 39.29	3	2.592	27 43		14.65	
962	O. Arg. S. 9489	7.1	9 7 43.90	3	2.596	27 31		14.65	
963	O. Arg. S. 9496	7.2	9 8 4.40	3	2.597	27 32		14.67	
964	Lacaille 3739		9 9 5		2.553	29 47 25.2	1	14.73	
965	O. Arg. S. 9509	7.0	9 9 6.18	2	2.553	29 47		14.73	
966	Lacaille 3750	6.5	9 9 45.52	1	2.490	32 44		14.77	
967	Anonymous	6.8	9 9 49.49	1	2.598	27 41		14.78	
968	O. Arg. S. 9522	7.4	9 9 51.62	3	2.619	— 26 37		14.78	
969	83 Cancri		9 11 9.75	5	3.369	+ 18 18		14.86	
970	Anonymous	8.4	9 11 43.55	2	+ 2.585	— 28 33		— 14.89	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		′	
971	Anonymous	7.0	9 12 4.40	2	+ 2.444	— 35 6		— 14.91	
972	Anonymous	7.0	9 12 55.70	1	2.496	33 31		14.96	
973	Lacaille 3780	6.0	9 13 0.76	1	2.365	38 28		14.96	
974	O. Arg. S. 9600	8.3	9 13 53.50	3	2.621	27 0		15.01	
975	B. A. C. 3190	6.0	9 13 59.69	1	2.485	33 31		15.02	
976	Anonymous	7.1	9 14 23.08	3	2.590	28 39		15.04	
977	O. Arg. S. 9615	7.3	9 14 39.15	2	2.590	28 38		15.06	
978	Anonymous	7.7	9 14 49.18	1	2.588	28 45		15.07	
979	Anonymous	7.5	9 15 22		2.560	30 12 45.3	1	15.10	
980	Anonymous	6.8	9 15 25.82	1	2.477	34 40 50.3	1	15.10	
981	Lacaille 3796	7.7	9 15 27.46	1	2.560	30 13		15.11	
982	Lacaille 3802	7.9	9 15 47.37	2	2.569	— 29 55 39.9	1	15.18	
983	1 (Hev.) Draconis		9 16 48		9.241	+ 81 56 22.4	7	15.18	
984	Anonymous	6.9	9 17 5.26	2	2.461	— 34 56		15.20	
985	B. A. C. 3207	4.7	9 17 8.83	1	2.604	28 14		15.20	
986	O. Arg. S. 9661	8.6	9 17 13.21	2	2.571	29 53		15.20	
987	Anonymous	8.3	9 17 15.27	1	2.599	28 29		15.21	
988	Anonymous	8.5	9 17 25.86	1	2.600	28 28		15.22	
989	Lacaille 3810	6.5	9 18 3.18	1	2.473	34 38		15.25	
990	Anonymous	8.1	9 18 28.02	2	2.602	28 28		15.28	
991	O. Arg. S. 9692		9 19 13.62	1	2.606	28 23		15.32	
992	Anonymous	7.6	9 20 32.28	4	2.582	29 47		15.39	
993	α Hydræ		9 20 42.44	10	2.951	8 3 12.8	2	15.40	
994	Anonymous	7.5	9 21 20.41	1	2.612	27 47		15.44	
995	B. A. C. 3235		9 21 49.72	1	2.476	— 34 24		15.47	
996	d Ursæ Majoris		9 22 2		5.466	+ 70 26 31.8	1	15.48	
997	Lacaille 3848		9 22 25.12	1	2.493	— 34 17		15.50	
998	ε Antliæ	4.1	9 23 28.18	3	2.473	35 21		15.56	
999	Lacaille 3864	6.9	9 23 49.56	3	2.631	27 37		15.58	
1000	Anonymous	8.5	9 24 5.70	1	2.633	27 35		15.59	
1001	O. Arg. S. 9789	8.5	9 24 6		2.596	— 29 31 55.7	1	15.59	
1002	ξ Leonis		9 24 23.80	2	3.249	+ 11 55		15.61	
1003	Anonymous	7.3	9 25 22.47	1	2.480	— 35 19		15.66	
1004	Lacaille 3889	6.0	9 25 42.65	2	2.486	35 5		15.68	
1005	Anonymous	7.7	9 26 1		2.622	28 25 41.2	1	15.70	
1006	Lacaille 3905	6.5	9 27 38.52	3	2.427	— 38 1		15.78	
1007	10 Leonis		9 29 49.07	1	3.179	+ 7 28		15.90	
1008	O. Arg. S. 9903	7.9	9 29 51.88	4	2.771	— 20 16		15.90	
1009	Lacaille 3923	6.7	9 30 15.33	1	2.709	24 5		15.92	
1010	O. Arg. S. 9931	7.0	9 31 12.60	2	2.599	— 30 20 33.2	2	15.97	
1011	Anonymous	8.3	9 31 39.64	1	3.449	+ 25 4		16.00	
1012	Lacaille 3945	7.2	9 31 41.39	3	2.606	— 30 2		16.00	
1013	Anonymous	8.4	9 32 3.10	2	2.774	— 20 22		16.02	
1014	o Leonis		9 33 40.50	2	3.220	+ 10 32		16.11	
1015	Anonymous	8.0	9 34 46.98	2	2.509	— 35 24		16.16	
1016	Anonymous		9 35 19.21	3	2.511	35 24		16.19	
1017	Lacaille 3975	6.5	9 35 25.29	1	2.564	32 46		16.20	
1018	Lacaille 3976	6.8	9 35 44.85	1	2.624	29 40		16.21	
1019	Anonymous	7.5	9 35 52.66	1	2.460	37 53		16.22	
1020	Lacaille 3984	6.7	9 36 51.66	1	2.580	32 46		16.27	
1021	Anonymous	8.0	9 37 11.61	2	2.637	— 29 10		16.29	
1022	ε Leonis		9 37 53.89	7	3.425	+ 24 25 1.7	3	16.32	
1023	Lacaille 3996	6.6	9 38 32.87	1	2.447	— 38 55 50.1	1	16.35	
1024	18 Leonis		9 38 50.62	2	3.243	+ 12 27		16.37	
1025	Weisse (2) 832	8.7	9 39 28.63	1	3.295	+ 16 10		16.40	
1026	Anonymous	8.0	9 39 45		2.490	— 37 10 4.9	1	16.42	
1027	Brisbane 2651	7.1	9 41 31.10	2	2.430	40 2		16.45	
1028	Anonymous		9 40 45.60	1	2.723	24 34		16.47	
1029	Brisbane 2657	7.0	9 40 54.40	1	2.432	40 4		16.47	
1030	Anonymous	8.3	9 41 0.84	1	2.638	29 39		16.48	
1031	Anonymous	6.8	9 41 7.28	1	2.432	40 4		16.49	
1032	Lacaille 4021	6.0	9 41 33.25	1	2.587	32 35		16.51	
1033	Anonymous	6.0	9 41 45.80	2	2.489	37 33		16.52	
1034	O. Arg. S. 10122	8.0	9 41 55.56	1	2.726	24 34		16.53	
1035	Lacaille 4026		9 42 22		+ 2.707	— 25 45 58.7	1	— 16.55	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1036	O. Arg. S. 10131	7.9	9 42 22.70	2	+ 2.641	— 29 42		— 16.55	
1037	Lacaille 4030	7.2	9 42 33		2.505	36 59 11.6	1	16.55	
1038	Lacaille 4036	5.0	9 43 36.04	2	2.517	— 36 32		16.61	
1039	α Leonis		9 44 47.68	6	3.445	+ 26 39 51.7	2	16.66	
1040	Anonymous		9 45 46.60	3	2.504	— 37 32		16.71	
1041	Lacaille 4052	6.6	9 45 50.23	1	2.605	— 32 19		16.72	
1042	(* 114) W.	9.5	9 46 1.04	1	3.269	+ 14 58		16.72	
1043	Anonymous	7.1	9 47 31.48	2	2.506	— 37 46		16.80	
1044	Lacaille 4058	7.7	9 47 47.38	1	2.695	27 20		16.81	
1045	Anonymous	7.9	9 48 5.09	2	2.688	27 50		16.82	
1046	Anonymous		9 48 6.41	1	2.509	37 45		16.82	
1047	O. Arg. S. 10219	6.5	9 48 55.20	1	2.690	27 52		16.86	
1048	Anonymous	7.0	9 49 6.59	1	2.608	32 44		16.87	
1049	Anonymous	8.5	9 49 20.06	1	2.464	40 6		16.88	
1050	O. Arg. S. 10227	8.8	9 49 47.31	1	2.692	27 50		16.90	
1051	Anonymous	7.2	9 50 8		2.493	38 53 19.4	3	16.92	
1052	Anonymous	6.5	9 50 19.30	1	2.481	40 9		16.93	
1053	O. Arg. S. 10236	7.5	9 50 20		2.667	29 27 31.8	1	16.93	
1054	B. A. C. 3405	6.2	9 50 28.76	2	2.611	32 45		16.94	
1055	Lacaille 4076	7.2	9 50 34.90	1	2.710	26 48		16.94	
1056	Lacaille 4089	7.2	9 52 27.00	2	2.686	— 28 38		17.03	
1057	π Leonis		9 52 48.77	4	3.180	+ 8 43		17.04	
1058	Anonymous	7.6	9 53 3.09	2	2.666	— 30 1		17.06	
1059	Anonymous		9 54 6.84	1	2.573	35 35		17.10	
1060	Anonymous	7.3	9 54 12		2.590	34 38 38.1	1	17.11	
1061	Lacaille 4106, (1st *)	7.7	9 55 32.93	1	2.704	28 1		17.17	
1062	Lacaille 4106, (2d *)	7.9	9 55 33.88	1	2.704	28 1		17.17	
1063	Lacaille 4115	6.8	9 56 33.88	1	2.678	29 54		17.22	
1064	Anonymous	8.7	9 56 45.86	2	2.684	29 34		17.22	
1065	Anonymous	8.0	9 57 13.86	2	2.685	29 33		17.25	
1066	Anonymous	7.0:	9 57 46		2.529	38 36 12.5	1	17.27	
1067	O. Arg. S. 10337	5.0	9 57 53.09	1	2.775	— 23 36		17.28	
1068	Weisse 1243	8.0	9 58 7.02	1	3.236	+ 13 38		17.29	
1069	O. Arg. S. 10346	6.8	9 58 27.78	2	2.720	— 27 29		17.30	
1070	O. Arg. S. 10351	6.8	9 58 50.63	3	2.721	— 27 31		17.32	
1071	Weisse 1259	7.0	9 59 5		3.233	+ 13 27 45.0	1	17.33	
1072	Lacaille 4142	6.8	9 59 23.35	1	2.641	32 42		17.34	
1073	14 Sextantis		9 59 28.10	1	3.146	6 18		17.34	
1074	Weisse 1279	8.1	10 0 4.90	1	3.235	13 42 9.7	1	17.37	
1075	α Leonis		10 0 54.84	4	3.221	+ 12 39 0.9	4	17.41	
1076	O. Arg. S. 10387	8.0	10 1 23.44	2	2.786	— 23 22		17.43	
1077	Anonymous	9.2	10 1 52.61	1	3.223	+ 12 56		17.45	
1078	Anonymous	8.5	10 2 39.42	1	2.660	— 32 12		17.48	
1079	Anonymous	9.0	10 2 40.70	1	3.223	+ 12 57		17.48	
1080	Anonymous	9.5	10 3 7.52	1	3.225	+ 13 10		17.50	
1081	Lacaille 4165	7.4	10 3 20.21	1	2.662	— 32 10		17.51	
1082	Lacaille 4185	6.5	10 5 34.74	1	2.646	33 38		17.61	
1083	Lacaille 4183	7.4	10 5 39.89	1	2.733	— 27 55		17.61	
1084	Weisse 75	9.0	10 5 54.61	1	2.217	+ 12 50		17.62	
1085	Lacaille 4186	6.5	10 5 56.08	2	2.533	— 40 11		17.62	
1086	Weisse 94	9.0	10 6 29		3.211	+ 12 22 49.9	1	17.65	
1087	O. Arg. S. 10471	6.0	10 7 36.14	1	2.803	— 23 7		17.69	
1088	Weisse 115	9.2	10 7 41.27	1	3.212	+ 12 34 29.9	1	17.70	
1089	Weisse 116	9.3	10 7 41.60	1	3.210	+ 12 22 3.8	1	17.70	
1090	B. A. C. 3497	6.5	10 7 48.63	1	2.551	— 39 39		17.70	
1091	32 Ursæ Majoris, S. P.		10 7 49		4.471	+ 65 48 14.7	1	17.70	
1092	B. A. C. 3498	7.0	10 7 58.47	1	2.552	— 39 37		17.71	
1093	Anonymous	7.0	10 8 12.12	2	2.571	38 39		17.72	
1094	Anonymous		10 8 19		2.709	— 30 7 23.8	1	17.72	
1095	B. A. C. 3495	4.7	10 8 40		10.149	+ 84 57 32.4	1	17.74	
1096	Anonymous	8.3	10 9 37.33	1	2.577	— 38 39		17.77	
1097	Lacaille 4218	7.2	10 9 41.48	3	2.744	— 27 56		17.78	
1098	Lalande 19981	9.0	10 10 19		3.203	+ 11 58 55.4	1	17.80	
1099	Lacaille 4227	7.0	10 10 37.71	1	2.667	— 33 25		17.82	
1100	γ^1 Leonis		10 12 14.98	8	+ 3.299	+ 20 33		— 17.88	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1101	γ^2 Leonis		10 12 15.27	2	+ 3.299	+ 20 33		— 17.88	
1102	Weisse 209	7.3	10 12 59.40	2	3.200	+ 12 3 16.1	1	17.91	
1103	O. Arg. S. 10539	7.0	10 13 11		2.826	— 22 16 8.1	1	17.92	
1104	O. Arg. S. 10543	7.0	10 13 35		2.825	— 22 24 3.4	1	17.93	
1105	B. A. C. 3528		10 13 38		8.141	+ 83 16 5.1	1	17.93	
	S. P.	5.0				2.9	4	17.93	
1106	Lacaille 4250	7.0	10 13 55.97	1	2.693	— 32 25		17.94	
1107	Lacaille 4253		10 14 1.74	1	2.589	— 39 0		17.95	
1108	Weisse 240	7.2	10 14 42.49	2	3.198	+ 12 2		17.98	
1109	43 Leonis		10 15 40.72	2	3.152	+ 7 45		18.01	
1110	Anonymous	7.5	10 15 47.98	2	2.655	— 35 2		18.02	
1111	Anonymous	7.3	10 15 58.83	1	2.954	— 11 22		18.03	
1112	Weisse 276	6.7	10 16 54.31	1	3.188	+ 11 18		18.06	
1113	Rumker 3171	8.9	10 17 17.21	2	3.196	+ 12 4		18.07	
1114	Anonymous	7.5	10 17 43.59	1	2.957	— 11 18		18.09	
1115	Lacaille 4287	6.7	10 18 47.35	1	2.632	37 35		18.13	
1116	Lacaille 4286	6.0	10 18 54		2.762	— 28 29 2.9	1	18.14	
1117	Weisse 316	7.5	10 19 1.07	1	3.185	+ 11 13		18.14	
1118	45 Leonis	6.5	10 20 15.24	2	3.176	+ 10 28 30.2	1	18.19	
1119	α Antliæ	4.5	10 20 44.83	2	2.744	— 30 21		18.20	
1120	Weisse 375	7.0	10 21 47.36	1	3.178	+ 10 52		18.24	
1121	Weisse 377	8.8	10 21 55.73	2	3.182	+ 11 15		18.25	
1122	Anonymous	6.8	10 21 58.80	2	2.676	— 35 30		18.25	
1123	Lacaille 4307	6.5	10 22 54.25	1	2.653	— 37 21		18.28	
1124	B. A. C. 3593		10 23 5		5.346	+ 76 25 56.4	2	18.29	
1125	30 Sextantis		10 23 8.00	2	3.073	0 5		18.29	
1126	Weisse 412	8.0	10 23 58.25	1	3.176	+ 10 47		18.32	
1127	O. Arg. S. 10684	8.1	10 24 11.84	2	2.825	— 24 30		18.33	
1128	Lacaille 4324	6.7	10 25 17.72	1	2.792	— 27 30		18.36	
1129	Weisse 439	9.0	10 25 26.16	2	3.176	+ 11 1		18.37	
1130	ρ Leonis		10 25 26.22	5	3.167	+ 10 2		18.37	
1131	Anonymous	7.5	10 27 10.66	2	2.697	— 35 25		18.43	
1132	Lacaille 4340	7.5	10 27 17.64	1	2.808	26 37 40.1	1	18.43	
1133	Anonymous	8.3	10 28 14		2.674	37 24 23.8	1	18.47	
1134	B. A. C. 3627	6.2	10 28 17		2.857	22 27 17.7	1	18.47	
1135	Lacaille 4349	7.0	10 28 20.29	1	2.764	30 37		18.47	
1136	Anonymous	8.5	10 29 12.93	2	2.702	35 40		18.50	
1137	Lacaille 4360	6.5	10 29 28.70	1	2.821	25 57		18.51	
1138	Anonymous	7.9	10 29 52.88	3	2.704	35 39		18.53	
1139	Lacaille 4363	6.5	10 30 2.84	5	2.779	28 3		18.53	
1140	Lacaille 4365	6.7	10 30 10.64	2	2.746	32 33		18.54	
1141	B. A. C. 3638	6.5	10 30 38		2.817	26 41 17.3	1	18.55	
1142	Lacaille 4382	7.3	10 32 31.12	2	2.828	25 7		18.61	
1143	Lacaille 4384	7.1	10 32 34.84	3	2.655	39 58		18.61	
1144	Lacaille 4387	6.0	10 32 55.80	5	2.712	— 35 57		18.62	
1145	O. Arg. N. 11041	8.3	10 33 4.41	1	4.077	+ 63 46		18.63	
1146	Lacaille 4389	7.1	10 33 26.12	1	2.753	— 32 53 3.2	1	18.64	
1147	Lacaille 4399	5.5	10 34 28.22	1	2.730	— 35 1		18.67	
1148	Weisse 618	6.5	10 34 54.48	1	3.167	+ 11 6		18.69	
1149	Lacaille 4407	6.5	10 35 6.69	2	3.733	— 35 0		18.69	
1150	Lacaille 4406	7.2	10 35 13.71	1	2.843	25 18 55.5	1	18.70	
1151	Anonymous	7.5	10 35 35.00	1	2.726	35 45		18.71	
1152	Anonymous		10 36 34.89	1	2.729	35 49		18.74	
1153	Lacaille 4419	6.4	10 36 46.46	1	2.787	31 1		18.75	
1154	Anonymous	8.0	10 36 55.16	1	2.817	28 20		18.75	
1155	O. Arg. S. 10840	6.7	10 37 4		2.797	30 8 1.3	1	18.76	
1156	O. Arg. S. 10849	6.3	10 37 45.68	3	2.869	— 23 15		18.78	
1157	36 Sextantis		10 37 56.58	2	3.098	+ 3 13		18.78	
1158	Lacaille 4437	6.0	10 38 14.79	1	2.730	— 36 12		18.79	
1159	Weisse (2) 776	8.0	10 38 19.90	1	3.411	+ 36 22		18.79	
1160	37 Sextantis	6.0	10 38 48.33	1	3.130	+ 7 6 38.1	1	18.81	
1161	Anonymous	7.0	10 39 25.72	1	2.735	— 36 14		18.83	
1162	Lacaille 4450	6.5	10 39 33.61	2	2.683	40 14		18.83	
1163	O. Arg. S. 10872	8.6	10 39 51.26	3	2.834	27 26		18.84	
1164	O. Arg. S. 10874	8.0	10 39 51.69	3	2.835	— 27 24		18.84	
1165	Weisse 703	7.0	10 40 1		+ 3.129	+ 7 5 14.2	1	— 18.85	

Number.		Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
1166	l	Leonis		10 41 53.76	9	+ 3.161	+ 11 7		— 18.90	
1167		O. Arg. S. 10906	6.3	10 42 34.59	2	2.855	— 26 5		18.92	
1168		Anonymous	8.0	10 42 45.89	1	2.732	37 35		18.93	
1169		O. Arg. S. 10912	7.7	10 42 47	1	2.819	29 48 43.3	1	18.93	
1170		Anonymous	7.8	10 43 1		2.825	29 15 15.7	1	18.93	
1171		B. A. C. 3719	5.0	10 43 26.43		2.784	— 33 19		18.95	
1172	Σ	Cat. Gen. 1248	8.2	10 43 27.37	1	3.278	+ 25 12		18.95	
1173		Lacaille 4488	6.7	10 43 55.41	1	2.788	— 33 6		18.96	
1174		Dorpat 1482, (1st *)	8.7	10 44 51.90	2	3.134	+ 8 11		18.99	
1175		Dorpat 1482, (2d *)	8.0	10 44 52.54	2	3.134	8 11		18.99	
1176		Anonymous	8.8	10 45 12.52	1	3.134	+ 8 9		19.00	
1177		O. Arg. S. 10933	7.2	10 45 15.44	3	2.885	— 23 38		19.00	
1178		O. Arg. S. 10936	9.0	10 45 36		2.852	29 20 10.8	1	19.01	
1179		O. Arg. S. 10941		10 45 54		2.832	29 26 21.6	1	19.02	
1180		O. Arg. S. 10944	7.9	10 46 0.43	1	2.867	25 50		19.02	
1181		O. Arg. S. 10952		10 46 40		2.835	29 21 5.8	1	19.04	
1182		Lacaille 4503	7.3	10 46 42.53	1	2.723	39 41		19.04	
1183		Anonymous	8.3	10 47 1.25	1	2.889	23 36		19.05	
1184		Lacaille 4506	7.2	10 47 12.50	1	2.815	31 34		19.05	
1185		Lacaille 4505	7.4	10 47 16.28	2	2.869	26 1		19.05	
1186		Anonymous	7.7	10 47 36.23	2	2.828	— 30 27		19.06	
1187		Dorpat 1487, (1st *)	6.5	10 48 1.56	1	3.269	+ 25 32		19.07	
1188		O. Arg. S. 10974	7.7	10 48 12.51	1	2.838	— 29 35 27.9	1	19.08	
1189		Lacaille 4516	7.0	10 48 44		2.870	— 26 13 57.2	1	19.09	
1190		Lalande 21014	8.0	10 48 47.26	1	3.254	+ 24 0		19.09	
1191		Lacaille 4519	6.8	10 49 14.43	1	2.827	— 31 3		19.11	
1192		B. A. C. 3755	4.5	10 50 11.96	3	2.777	36 23		19.13	
1193		O. Arg. S. 11003	7.0	10 50 14.32	2	2.836	30 27		19.13	
1194		Anonymous	8.3	10 50 22.35	1	2.862	27 45		19.14	
1195		O. Arg. S. 11015	8.1	10 51 17.38	2	2.866	27 34		19.16	
1196		O. Arg. S. 11020, (1st *)	7.7	10 51 47.32	2	2.902	23 27		19.17	
1197		Anonymous	7.3	10 52 17.58	1	2.911	22 30 15.5	1	19.19	
1198		Anonymous	7.8	10 52 37.52	3	2.793	— 35 46		19.20	
1199	β	Ursæ Majoris		10 53 22		3.665	+ 57 7 54.5	1	19.22	
1200		Lacaille 4558	6.0	10 54 26.00	2	2.758	— 39 45		19.24	
1201	p^1	Leonis		10 54 41.24	2	3.061	— 1 44		19.25	
1202	a	Ursæ Majoris		10 55 3		3.790	+ 62 30 21.7	8	19.26	
		S. P.					20.9	3	19.26	
1203		Anonymous	7.9	10 55 7.75	1	2.828	— 33 9 26.6	1	19.26	
1204		B. A. C. 3778	5.5	10 55 37.95	3	2.891	26 4		19.27	
1205		Lacaille 4567	6.2	10 55 45.74	2	2.758	40 21		19.27	
1206		Lacaille 4576	7.0	10 57 37.63	1	2.775	— 39 33		19.32	
1207	χ	Leonis		10 57 47.65	11	3.122	+ 8 5 32.7	1	19.32	
1208		B. A. C. 3792	5.6	10 58 17.78	1	2.823	— 35 3 3.3	1	19.33	
1209		Weisse 1049	8.3	10 58 47.51	2	3.157	+ 13 34		19.34	
1210		Weisse 1060	7.3	10 59 11.30	1	3.156	13 28		19.35	
1211	p^3	Leonis		10 59 45.45	1	3.088	+ 2 43		19.37	
1212		Lacaille 4596	6.6	11 0 8.89	2	2.875	— 29 47 48.0	1	19.38	
1213		Anonymous	8.0	11 0 29		2.882	28 55 56.0	1	19.38	
1214		O. Arg. S. 11154	6.6	11 0 41.77	3	2.892	27 44		19.39	
1215		Lacaille 4607	6.8	11 1 16.59	3	2.811	37 39		19.40	
1216		Lacaille 4609		11 1 30.84	1	2.883	— 29 13		19.41	
1217	ψ	Ursæ Majoris		11 1 46.90	1	3.411	+ 45 15		19.41	
1218		Lacaille 4614	7.0	11 1 54.60	1	2.886	— 28 59 21.5	1	19.41	
1219		Lacaille 4616		11 2 5.34	1	2.804	— 38 43		19.42	
1220		O. Arg. N. 11496	8.5	11 2 16.94	1	3.641	+ 59 39		19.42	
1221		O. Arg. S. 11188	8.6	11 2 38.39	3	2.916	— 25 14		19.43	
1222		Lacaille 4624	8.0	11 3 12		2.891	28 50 29.2	1	19.44	
1223		B. A. C. 3823	7.0	11 3 13		2.890	— 29 2 7.2	1	19.44	
1224		O. Arg. N. 11518	7.0	11 3 23.27	1	3.630	+ 59 39		19.45	
1225		O. Arg. S. 11208	6.8	11 3 41.75	5	2.919	— 25 14 5.0	1	19.45	
1226		Anonymous	9.0	11 4 27.33	1	2.920	25 23		19.47	
1227		O. Arg. S. 11216	7.0	11 4 27.67	1	2.921	— 25 10		19.47	
1228		(* 124) W.	9.0	11 5 8.01	1	3.608	+ 59 24		19.48	
1229		Lacaille 4638	6.9	11 5 8.29	5	2.922	— 25 22 26.6	1	19.48	
1230		Lacaille 4642	6.3	11 5 30.20	2	+ 2.877	— 31 41		— 19.49	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1231	p^5 Leonis		11 6 35.50	2	+ 3.076	+ 0 41		— 19.51	
1232	δ Leonis		11 6 39.49	4	3.192	21 17 25.0	3	19.52	
1233	O. Arg. N. 11584	7.5	11 7 21.33	1	3.578	+ 58 59		19.53	
1234	O. Arg. S. 11250	7.5	11 7 45.96	1	2.929	— 25 18 44.6	1	19.54	
1235	Lacaille 4667	6.6	11 8 29.96	1	2.833	38 43		19.55	
1236	Lacaille 4668	7.6	11 8 35.71	1	2.842	37 40		19.55	
1237	Anonymous		11 8 55		2.845	37 29 43.7	1	19.56	
1238	O. Arg. S. 11267	7.6	11 9 5.46	2	2.901	30 5		19.57	
1239	Lacaille 4672		11 9 13		2.838	38 34 3.1	1	19.57	
1240	ϕ Leonis		11 9 32.68	4	3.057	2 53		19.57	
1241	Lacaille 4680	6.9	11 10 12.43	1	2.850	37 38 11.4	1	19.58	
1242	Lacaille 4687	7.0	11 10 52		2.889	32 46 14.5	1	19.60	
1243	O. Arg. S. 11291	6.7	11 11 23.41	1	2.924	27 40		19.60	
1244	Lacaille 4693	5.7	11 11 42.73	2	2.950	23 35		19.61	
1245	δ Crateris		11 12 20.62	6	3.003	14 1 15.2	1	19.62	
1246	O. Arg. S. 11304	6.5	11 12 35.38	1	2.928	— 27 43		19.63	
1247	O. Arg. N. 11674		11 12 35.80	2	3.942	+ 72 29		19.63	
1248	O. Arg. S. 11311	8.8	11 13 5		2.917	— 29 40 51.9	1	19.64	
1249	Weisse 211		11 13 9.46	1	3.005	14 32		19.64	
1250	O. Arg. S. 11318	6.5	11 13 29.74	2	2.931	27 34		19.64	
1251	O. Arg. S. 11320	7.1	11 13 33.68	1	2.944	— 25 23		19.65	
1252	σ Leonis		11 13 55.00	2	3.104	+ 6 48		19.65	
1253	Lacaille 4710		11 13 57		2.886	— 34 58 41.6	1	19.65	
1254	Lacaille 4713	6.5	11 14 23.52	2	2.888	34 45		19.66	
1255	Weisse 253	7.2	11 14 29.55	1	3.016	11 53		19.66	
1256	Anonymous	7.7	11 15 37		2.869	38 20 15.4	1	19.68	
1257	O. Arg. S. 11344	8.2	11 15 39.58	4	2.963	— 22 58		19.68	
1258	Weisse 261	9.2	11 16 1.27	1	3.089	+ 3 56		19.69	
1259	Lacaille 4725	7.1	11 16 12.77	3	2.936	— 28 7 45.0	1	19.69	
1260	O. Arg. S. 11353	7.0	11 16 22.69	4	2.965	— 22 56 21.8	1	19.69	
1261	ν Leonis		11 16 37.52	1	3.122	+ 11 18		19.70	
1262	Weisse 284	7.6	11 17 33.40	2	3.084	+ 2 51		19.71	
1263	O. Arg. S. 11374	8.2	11 18 53.49	1	2.959	— 25 16		19.73	
1264	83 Leonis, (1st *)	6.6	11 19 39.89	3	3.087	+ 3 46 34.7	1	19.75	Mural mag. 8.0.
1265	83 Leonis, (2d *)	7.9	11 19 40.87	3	3.087	+ 3 47		19.75	
1266	Lacaille 4746	7.2	11 19 55.33	1	2.894	— 37 23		19.75	
1267	O. Arg. S. 11394	8.3	11 20 23.68	2	2.974	— 23 3		19.76	
1268	τ Leonis	6.0	11 20 44.22	4	3.086	+ 3 37 37.6	1	19.76	
1269	Weisse 349	7.3	11 20 45.14	2	3.086	+ 3 36		19.76	
1270	Weisse 358	6.3	11 20 53.60	1	3.072	— 0 8		19.76	
1271	Anonymous	7.1	11 21 6.54	2	2.915	— 34 47		19.77	
1272	Weisse 365	6.4	11 21 14.43	1	3.086	+ 3 33		19.77	
1273	O. Arg. S. 11410		11 21 25.66	3	2.979	— 23 3		19.77	
1274	B. A. C. 3909	5.8	11 22 14.64	1	3.072	+ 0 5		19.78	
1275	(* 123) W.	9.0	11 22 38.91	1	3.748	+ 72 13		19.79	
1276	Lacaille 4758	6.6	11 22 41.82	2	2.960	— 27 15		19.79	
1277	Lacaille 4760	6.0	11 22 53.34	1	2.909	37 41		19.79	
1278	O. Arg. S. 11438	6.6	11 23 23.57	2	2.973	25 1 37.3	2	19.80	
1279	Weisse 403	7.7	11 23 43.32	1	3.050	5 57		19.81	
1280	O. Arg. S. 11444	7.6	11 24 3.55	3	2.956	29 7 39.6	1	19.81	
1281	Anonymous	9.0	11 24 6.89	1	2.954	29 30		19.81	
1282	O. Arg. S. 11446	7.5	11 24 7.61	2	2.961	28 1		19.81	
1283	B. A. C. 3921	6.0	11 25 19		2.962	28 29 46.1	1	19.83	
1284	B. A. C. 3922	5.8	11 25 19		2.962	28 29 37.8	1	19.83	
1285	B. A. C. 3927	4.8	11 25 59.52	1	2.908	39 40		19.84	
1286	Lacaille 4777	6.2	11 26 1.15	4	2.932	35 26		19.84	
1287	B. A. C. 3929	5.5	11 26 48.31	1	2.911	— 39 49		19.85	
1288	O. Arg. N. 11873	8.6	11 26 59.96	2	3.648	+ 71 35		19.85	
1289	Anonymous	6.7	11 27 26.14	2	2.910	— 40 33		19.86	
1290	Anonymous	7.1	11 27 28.32	2	2.937	35 26		19.86	
1291	O. Arg. S. 11491	6.7	11 28 5.54	2	2.968	29 13		19.86	
1292	Anonymous		11 28 6.49	1	3.053	5 45		19.86	
1293	Lacaille 4792	6.5	11 28 20.59	1	2.944	34 50		19.87	
1294	ν Leonis		11 29 46.86	3	3.072	0 3 2.1	1	19.88	
1295	Anonymous	7.5	11 30 21.72	2	+ 2.953	— 34 21		— 19.89	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1296	Lacaille 4814	6.7	11 30 39.20	1	+ 2.936	— 38 38		— 19.89	
1297	Anonymous	7.2	11 31 10.54	1	2.955	34 49		19.90	
1298	O. Arg. S. 11531	8.5	11 31 17.02	2	2.995	24 49		19.90	
1299	Anonymous	9.0	11 31 18.54	2	2.995	24 52		19.90	
1300	Lacaille 4824	7.5	11 31 46.42	1	2.941	38 29		19.90	
1301	Anonymous	7.5	11 32 18.22	2	2.993	26 5		19.91	
1302	Lacaille 4830	7.3	11 32 27.75	1	2.944	38 37		19.91	
1303	O. Arg. S. 11557	7.5	11 33 2.50	2	2.982	29 42		19.92	
1304	Lacaille 4837	7.0	11 33 5		2.953	— 37 19 54.9	1	19.92	
1305	Carrington 1741	8.7	11 33 13.34	1	4.099	+ 81 21		19.92	
1306	Anonymous	6.9	11 33 16.85	3	2.990	— 27 43 12.8	1	19.92	
1307	γ Cephei S. P.		11 33 37.96	1	3.729	+ 76 51		19.92	
1308	B. A. C. 3969	5.5	11 34 44.87	1	2.981	— 31 43		19.93	
1309	B. A. C. 3974	6.0	11 36 29.22	2	2.971	— 36 25		19.95	
1310	O. Arg. N. 12020	7.0	11 36 39.82	2	3.544	+ 73 56		19.95	
1311	B. A. C. 3975	7.0	11 36 46		3.058	— 5 53 54.9	1	19.95	
1312	Weisse 646	7.9	11 37 29.64	1	3.056	7 3		19.96	
1313	Anonymous	7.2	11 38 30.44	2	2.978	— 36 51		19.97	
1314	ν Virginis		11 38 39.75	1	3.088	+ 7 19		19.97	
1315	Weisse 674	8.5	11 39 1.07	1	3.057	— 6 59		19.97	
1316	Lacaille 4881	7.8	11 39 19.00	1	3.010	27 10		19.97	
1317	Lacaille 4882	7.5	11 39 20.70	1	2.991	33 58 29.4	1	19.97	
1318	Anonymous	5.4	11 40 6.00	2	2.990	35 9		19.98	
1319	Lacaille 4890	6.4	11 40 16.06	2	3.007	29 30 1.1	1	19.98	
1320	O. Arg. S. 11656	7.0	11 40 16.38	2	3.018	25 11		19.98	
1321	Anonymous	9.5	11 40 54.81	1	3.058	7 22		19.99	
1322	Anonymous	6.9	11 41 37.82	2	2.996	— 35 15		19.99	
1323	β Leonis		11 41 55.02	12	3.101	+ 15 21 17.0	3	19.99	
1324	β Virginis		11 43 24.37	4	3.076	+ 2 33		20.00	
1325	Anonymous	7.5	11 43 33.38	1	3.000	— 36 57		20.00	
1326	Weisse 758	7.3	11 44 1.97	1	3.060	7 13		20.01	
1327	Anonymous	7.2	11 44 7.63	1	3.005	36 9 26.2	1	20.01	
1328	B. A. C. 4009	5.3	11 44 35		3.020	30 2 42.9	1	20.01	
1329	Anonymous	7.5	11 45 12.62	2	3.008	36 58 22.6	1	20.01	
1330	Anonymous	7.5	11 45 44.10	1	3.008	— 37 34		20.02	
1331	γ Ursæ Majoris		11 46 27		3.182	+ 54 28 23.7	4	20.02	
1332	B. A. C. 3974	6.3	11 46 30		3.014	— 36 24 46.6	1	20.02	
1333	Lacaille 4930	7.0	11 47 5.30	4	3.019	35 12 46.2	1	20.02	
1334	B. A. C. 4023	6.0	11 47 26		3.017	— 36 58 18.5	1	20.03	
1335	B. A. C. 4025	7.4	11 47 40.67	1	3.071	+ 0 42 52.5	1	20.03	
1336	Anonymous	10.0	11 48 7		3.063	— 7 52 49.5	1	20.03	
1337	B. A. C. 4034	5.8	11 48 48.84	1	3.019	+ 38 55		20.03	
1338	Radcliffe 2768	8.5	11 49 39.36	2	3.125	41 8		20.04	
1339	Radcliffe 2769	7.1	11 49 52.25	3	3.124	41 4		20.04	
1340	Radcliffe 2771	6.7	11 50 1.82	3	3.123	+ 41 7		20.04	
1341	Lacaille 4948	6.5	11 50 23		3.044	— 26 16 26.9	1	20.04	
1342	Lacaille 4955	6.5	11 50 59.32	3	3.045	26 54 15.0	1	20.04	
1343	Anonymous		11 51 4.91	1	3.048	26 55		20.04	
1344	Lacaille 4967		11 52 13		3.047	29 16 52.4	1	20.04	
1345	Weisse 895	8.7	11 52 24.18	1	3.071	1 8		20.04	
1346	O. Arg. S. 11831	7.7	11 53 51.60	3	3.055	25 42 1.6	1	20.05	
1347	Lacaille 4976	6.8	11 54 15.89	1	3.050	33 16 13.9	2	20.05	
1348	O. Arg. S. 11848	8.8	11 55 12.35	1	3.059	25 39		20.05	
1349	Anonymous	8.8	11 55 38.26	3	3.054	35 8		20.05	
1350	O. Arg. S. 11876	7.0	11 57 23.11	1	3.063	— 30 24		20.05	
1351	B. A. C. 4070		11 57 37.96	4	3.289	+ 86 23		20.05	
1352	Weisse 980		11 57 45.57	1	3.074	+ 9 30		20.05	
1353	Anonymous	7.8	11 58 1		3.064	— 33 25 44.6	1	20.06	
1354	Virginis		11 58 4.61	8	3.074	+ 9 30 41.0	2	20.06	
1355	Lacaille 5013		11 58 45.38	1	3.067	— 34 55		20.06	
1356	Lacaille 5016	7.0	11 58 52		3.067	— 37 53 44.1	1	20.06	
1357	O. Arg. N. 12337	8.6	11 59 31.14	2	3.083	+ 75 27		20.06	
1358	O. Arg. S. 11908		11 59 50.94	2	3.072	— 22 59		20.06	
1359	Dorpat 1604, (1st *)	7.7	12 2 14.34	1	3.074	11 1		20.06	
1360	Dorpat 1604, (2d *)	9.4	12 2 15.04	1	+ 3.074	— 11 1		— 20.06	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1361	Dorpat 1604, (3d *)	8.8	12 2 17.63	1	+ 3.074	— 11 1		— 20.06	
1362	10 Virginis	5.7	12 2 30.91	3	3.071	+ 2 41 2.9	1	20.06	
1363	Lacaille 5042	7.5	12 2 33		3.082	— 32 42 28.8	1	20.06	
1364	Anonymous	9.0	12 2 41		3.085	39 47 20.5	1	20.05	
1365	ε Corvi		12 2 55.77	4	3.079	— 21 50		20.05	
1366	4 Draconis		12 5 35.16	1	2.913	+ 78 23 39.2	6	20.05	
1367	O. Arg. S. 11995	7.9	12 5 39.00	2	3.091	— 30 32		20.05	
1368	Lacaille 5063	6.0	12 5 57.87	1	3.095	33 20		20.05	
1369	Anonymous	6.0	12 6 0		3.095	— 33 20 46.7	1	20.05	
1370	δ Ursæ Majoris	3.8	12 8 29		2.993	+ 57 48 39.2	2	20.05	
1371	Anonymous	7.8	12 8 44.96	5	3.091	— 25 47 5.4	1	20.04	
1372	Anonymous		12 8 48.22	2	3.099	25 49		20.04	
1373	Anonymous	8.7	12 9 29.62	1	3.099	25 43		20.04	
1374	Anonymous	6.9	12 9 36.13	4	3.099	25 49 6.3	1	20.04	
1375	Lacaille 5088	7.0	12 10 28		3.115	35 18 56.9	1	20.04	
1376	O. Arg. S. 12057	6.9	12 10 40.45	3	3.099	23 14		20.03	
1377	Anonymous	8.4	12 11 19.24	1	3.104	25 48		20.03	
1378	13 Virginis	6.0	12 11 29.74	2	3.072	0 0 30.6	2	20.03	
1379	O. Arg. S. 12082	6.8	12 12 38.94	2	3.108	25 57		20.03	
1380	Anonymous	7.3	12 12 42.71	1	3.111	— 27 45		20.03	
1381	B. A. C. 4150	6.6	12 12 43.66	1	1.550	+ 87 13		20.03	
1382	η Virginis		12 12 44.64	9	3.072	+ 0 6 42.6	1	20.02	
1383	Anonymous	9.3	12 13 36		3.110	— 25 51 32.7	1	20.02	
1384	O. Arg. S. 12101	7.2	12 13 59.05	1	3.112	25 57		20.02	
1385	Anonymous	7.5	12 14 3		3.117	28 56 45.6	1	20.02	
1386	O. Arg. S. 12116	6.5	12 15 9.87	2	3.110	23 27		20.01	
1387	Anonymous	9.3	12 15 17.19	1	3.139	— 32 48		20.01	
1388	Dorpat 1636, (1st *)	9.2	12 15 24.38	2	3.062	+ 6 7		20.01	
1389	Dorpat 1636, (2d *)	7.2	12 15 24.86	2	3.062	+ 6 7		20.01	
1390	Lacaille 5126	7.2	12 15 52.72	1	3.141	— 36 42 48.3	1	20.01	
1391	Lacaille 5131	7.0	12 16 31		3.127	29 33 29.6	1	20.00	
1392	Lalande 23198	7.7	12 16 45.89	2	3.118	25 14 15.0	2	20.00	
1393	O. Arg. S. 12134	8.3	12 16 49.70	1	3.115	23 28		20.00	
1394	Lacaille 5143	7.0	12 17 57.26	3	3.121	25 12 44.0	2	20.00	
1395	O. Arg. S. 12161	7.7	12 19 18.98	2	3.128	26 24		19.99	
1396	O. Arg. S. 12170	6.9	12 20 6.23	3	3.134	27 56		19.98	
1397	Anonymous	8.2	12 21 13.72	4	3.159	35 11		19.97	
1398	Anonymous	8.0	12 22 27.83	4	3.164	35 5		19.96	
1399	Anonymous	9.0	12 22 35		3.173	— 37 33 53.6	1	19.96	
1400	20 Comæ	6.0	12 22 40		3.020	+ 21 40 18.3	2	19.96	
1401	Anonymous	8.3	12 24 10.12	3	3.163	— 32 54		19.95	
1402	Lacaille 5191	6.2	12 24 39.88	2	3.161	31 46		19.94	
1403	Lacaille 5193	7.5	12 25 10.36	2	3.162	31 42		19.94	
1404	Lacaille 5198	7.0	12 25 26.54	1	3.155	29 16 16.8	1	19.93	
1405	Anonymous	8.5	12 26 3.92	1	3.166	31 46		19.93	
1406	Anonymous	8.0	12 26 17.28	1	3.169	32 30		19.92	
1407	q Virginis		12 26 33.36	3	3.096	8 41		19.92	
1408	Anonymous	7.5	12 26 39.73	2	3.168	31 47		19.92	
1409	β Corvi		12 27 2.35	6	3.137	— 32 37 20.0	1	19.92	
1410	κ Draconis		12 27 29.32	2	2.619	+ 70 34		19.91	
1411	Lacaille 5214		12 28 30		3.207	— 39 5 46.8	1	19.90	
1412	Anonymous	7.5	12 28 40		3.180	32 58 27.2	2	19.90	
1413	O. Arg. S. 12269	9.5	12 28 42.72	1	3.151	25 13		19.90	
1414	Lacaille 5220	7.5	12 29 26.26	5	3.176	31 25		19.89	
1415	f Virginis		12 29 35		3.087	5 3 35.1	1	19.89	
1416	O. Arg. S. 12286	7.9	12 29 50.85	2	3.154	— 25 14		19.89	
1417	Weisse (2) 636	8.0	12 30 11.36	1	2.955	+ 33 48		19.88	
1418	χ Virginis		12 32 1.31	6	3.096	— 7 13		19.86	
1419	Lacaille 5234	7.2	12 32 43.38	2	3.216	37 5		19.85	
1420	O. Arg. S. 12332	8.2	12 33 18.70	2	3.167	26 4		19.84	
1421	O. Arg. S. 12342	7.5	12 34 3.59	1	3.161	24 13		19.84	
1422	γ^1 Virginis		12 34 33.80	3	3.074	0 41		19.83	
1423	γ^2 Virginis		12 34 33.90	3	3.074	0 41		19.83	
1424	Lacaille 5252	7.4	12 34 38.55	1	3.224	37 6		19.83	
1425	Anonymous	8.0	12 35 40.14	1	+ 3.219	— 35 16		— 19.81	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1426	Anonymous	7.0	12 35 53.04	1	+ 3.251	— 40 35		— 19.81	
1427	Lacaille 5257		12 36 5		3.172	25 32 0.7	1	19.81	
1428	O. Arg. S. 12377	5.0	12 36 33.19	2	3.183	27 33		19.80	
1429	Anonymous	9.0	12 36 42		3.229	36 28 4.7	1	19.80	
1430	Lacaille 5271	6.0	12 37 48.25	1	3.189	28 0		19.78	
1431	O. Arg. S. 12389	6.5	12 37 48.46	1	3.189	28 0		19.78	
1432	O. Arg. S. 12390	7.5	12 37 51.26	1	3.194	29 0 56.0	1	19.78	
1433	Anonymous	7.2	12 38 2.73	2	3.235	37 3 16.4	1	19.78	
1434	Lacaille 5278	5.8	12 39 13.24	4	3.217	— 32 33		19.76	
1435	Lalande 23832	8.0	12 40 3		3.012	+ 14 22 55.2	1	19.75	
1436	Lacaille 5284	6.7	12 40 45.53	4	3.217	— 31 34		19.74	
1437	O. Arg. S. 12444	8.8	12 41 37.20	1	3.185	— 25 6		19.73	
1438	29 Comæ	6.5	12 41 53.30	1	3.007	+ 14 53		19.72	
1439	O. Arg. S. 12460	7.8	12 42 41.26	3	3.188	— 25 5		19.71	
1440	Weisse 722	9.0	12 42 45.67	1	3.126	12 18		19.71	
1441	Lacaille 5295	7.2	12 42 52.34	2	3.215	29 48 51.4	1	19.71	
1442	Anonymous	8.2	12 42 57.07	1	3.261	37 11		19.70	
1443	Weisse 728	7.5	12 43 9.81	1	3.127	12 16		19.70	
1444	Anonymous	8.2	12 44 9.57	1	3.192	25 7		19.69	
1445	Lacaille 5301	6.5	12 44 11.68	1	3.222	30 19		19.68	
1446	Lacaille 5302		12 44 17.21	1	3.223	— 30 26		19.68	
1447	Weisse 757	8.0	12 44 41		3.068	+ 0 50 55.4	1	19.68	
1448	Weisse 764	9.0	12 45 17.59	1	3.068	0 59		19.67	
1449	Weisse 876	9.0	12 45 27		3.068	+ 0 52 21.7	1	19.66	
1450	O. Arg. S. 12495	7.5	12 45 44.30	1	3.220	— 29 15		19.66	
1451	Anonymous	7.5	12 46 30		3.287	38 34 47.9	1	19.65	
1452	ψ Virginis		12 47 4.54	2	3.114	8 47		19.64	
1453	O. Arg. S. 12520	6.6	12 47 58.24	1	3.228	— 29 18		19.62	
1454	B. A. C. 4342		12 48 8		0.339	+ 84 10 26.8	2	19.62	
1455	O. Arg. S. 12523	8.3	12 48 11.81	1	3.212	— 26 40		19.62	
1456	O. Arg. S. 12529	8.1	12 49 2.58	2	3.214	26 37		19.60	
1457	O. Arg. S. 12533	6.7	12 49 13.42	2	3.215	— 26 37		19.60	
1458	B. A. C. 4345		12 49 27.08	4	2.839	+ 39 4 17.6	1	19.59	
1459	α Canum Venaticorum		12 49 28.47	6	2.839	+ 39 4 31.7	2	19.59	
1460	Anonymous	7.2	12 49 50.48	1	3.255	— 32 23 49.9	1	19.58	
1461	Lacaille 5348		12 51 18		3.238	29 16 35.2	1	19.56	
1462	O. Arg. S. 12573	7.1	12 52 43.17	3	3.202	23 9		19.53	
1463	Weisse 909	6.5	12 53 23.53	1	3.086	2 37		19.52	
1464	O. Arg. S. 12588	7.3	12 54 10.54	3	3.253	— 30 5		19.50	
1445	Weisse 926		12 54 21.75	1	3.059	+ 2 16		19.50	
1466	Lacaille 5371		12 55 19.79	1	3.283	— 33 33		19.47	
1467	B. A. C. 4369		12 56 3.24	1	3.286	33 30		19.46	
1468	O. Arg. S. 12615	7.8	12 56 19.13	2	3.224	25 2 58.3	1	19.45	
1469	Anonymous	7.5	12 56 37.04	2	3.171	16 54		19.45	
1470	Anonymous	9.5	12 56 45.89	1	3.320	37 4		19.44	
1471	O. Arg. S. 12620		12 56 47.88	1	3.244	25 56		19.44	
1472	O. Arg. S. 12629		12 57 36.86	2	3.173	16 55		19.43	
1473	Anonymous	7.3	12 58 2.29	3	3.301	34 22		19.42	
1474	Lacaille 5405	7.2	12 59 58.69	4	3.269	29 41 6.4	1	19.37	
1475	50 Virginis		13 2 25.85	2	3.133	9 35		19.32	
1476	Weisse 17		13 2 42.18	1	3.102	4 47		19.31	
1477	θ Virginis		13 2 42.25	14	3.102	4 47		19.31	
1478	Anonymous	8.5	13 3 55		3.346	36 39 5.7	1	19.28	
1479	Lacaille 5457	6.5:	13 7 16		3.349	35 37 43.2	1	19.20	
1480	O. Arg. S. 12802	7.0	13 12 48.61	1	3.282	26 40		19.05	
1481	O. Arg. S. 12811	7.5	13 13 27		3.239	21 38 48.5	1	19.03	
1482	Lacaille 5510	7.1	13 14 48.50	2	3.273	25 6 25.0	1	19.00	
1483	Weisse 235	7.5	13 14 56.55	1	3.102	3 56		18.99	
1484	Lacaille 5514	6.7	13 15 17.54	1	3.346	32 24		18.98	
1485	Lalande 24816	7.2	13 16 35.42	2	3.271	24 23 52.9	1	18.95	
1486	α Virginis		13 17 49.32	18	3.154	— 10 25 45.4	5	18.91	
1487	ζ Ursæ Majoris		13 18 17		2.417	+ 55 39 26.1	1	18.90	
1488	Anonymous	8.5	13 19 4.50	3	3.388	— 34 55		18.87	
1489	Weisse 304	8.0	13 19 29.10	2	3.116	— 5 34		18.86	
1490	Weisse 312	8.3	13 19 52.25	1	+ 3.056	+ 1 57		— 18.85	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Procession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1491	Anonymous	7.8	13 19 58.97	1	+ 3.392	— 34 57		— 18.85	
1492	Anonymous	8.9	13 20 41.06	1	3.369	32 46		18.82	
1493	B. A. C. 4496	6.6	13 21 5.92	1	3.073	0 6		18.81	
1494	Anonymous	7.0	13 21 24.99	2	3.395	— 34 50 32.3	1	18.80	
1495	71 Virginis	6.0	13 22 16.88	3	2.976	+ 11 33		18.78	
1496	O. Arg. S. 12908		13 22 49.61	1	3.272	— 22 55		18.76	
1497	Lalande 24977	7.8	13 23 23		3.293	24 55 57.2	1	18.74	
1498	Anonymous	8.7	13 23 46.39	1	3.400	34 29		18.73	
1499	O. Arg. S. 12920	7.3	13 23 55.94	3	3.352	— 30 19 55.7	1	18.73	
1500	Weisse 392	9.0	13 24 24.27	1	2.998	+ 8 47		18.71	
1501	Weisse 413		13 25 18.09	1	3.012	+ 7 4		18.68	
1502	h Virginis	6.3	13 25 35.81	1	3.153	— 9 26 31.8	2	18.67	
1503	ζ Virginis		13 27 33.73	10	3.071	+ 0 7 16.2	2	18.61	
1504	Anonymous	7.0	13 27 50.28	1	3.380	— 31 40		18.60	
1505	Weisse 461	8.8	13 27 56		3.009	+ 7 10 16.8	1	18.60	
1506	Weisse 472	9.3	13 28 13		3.008	7 13 39.3	1	18.59	
1507	B. A. C. 4536	7.0	13 28 32		2.680	+ 37 54 1.3	1	18.58	
1508	Anonymous		13 29 30		3.440	— 35 51 21.4	1	18.55	
1509	Anonymous	7.4	13 30 56.24	2	3.330	26 32 48.2	1	18.50	
1510	Lacaille 5625	6.0	13 31 36		3.508	— 39 20 14.7	1	18.48	
1511	Anonymous	8.3	13 32 4.04	1	0.807	+ 77 0		18.46	
1512	Anonymous	8.0	13 32 4.28	1	3.332	— 26 27		18.46	
1513	Anonymous	9.0	13 34 49.27	2	3.487	37 41		18.36	
1514	Lacaille 5655		13 35 7		3.377	— 29 28 28.2	1	18.35	
1515	o Virginis		13 36 1		3.032	+ 4 14 50.0	1	18.32	
1516	O. Arg. S. 13085		13 36 3.70	1	3.361	— 27 58		18.32	
1517	Anonymous	7.5	13 36 10		3.465	35 51 8.6	1	18.32	
1518	Lacaille 5663	6.3	13 36 58.48	2	3.326	24 47 40.6	1	18.29	
1519	i Centauri	5.5	13 37 44.37	1	3.422	32 20		18.26	
1520	Anonymous		13 38 5.09	1	3.452	34 28		18.25	
1521	Lacaille 5676	7.0	13 38 48		3.471	35 32 57.4	1	18.22	
1522	O. Arg. S. 13149	7.5	13 40 25.25	1	3.400	30 3		18.16	
1523	Anonymous		13 40 25.59	1	3.388	29 5		18.16	
1524	Anonymous	8.3	13 40 53		3.401	— 30 0 40.7	1	18.14	
1525	Weisse (2) 854		13 40 57.50	1	2.687	+ 34 1		18.14	
1526	O. Arg. S. 13156	6.7	13 41 1.56	4	3.401	— 30 1		18.14	
1527	Lacaille 5686	7.0	13 41 8		3.370	27 39 57.5	1	18.13	
1528	g Centauri	6.0	13 41 20.72	1	3.454	33 45		18.13	
1529	Anonymous	8.3	13 41 32		3.487	35 54 28.5	1	18.12	
1530	O. Arg. S. 13167	7.4	13 41 59.78	2	3.371	— 27 29		18.10	
1531	η Ursæ Majoris		13 42 1		2.386	+ 50 0 47.2	4	18.10	
1532	Lacaille 5692		13 42 1		3.371	— 27 29 13.5	1	18.10	
1533	O. Arg. S. 13169	8.7	13 42 6.20	2	3.372	27 29		18.10	
1534	O. Arg. S. 13177	7.5	13 42 52		3.375	27 36 38.4	1	18.07	
1535	O. Arg. S. 13182	7.5	13 43 7		3.375	— 27 33 46.7	1	18.06	
1536	Weisse (2) 910		13 43 7.49	1	2.673	+ 34 26		18.06	
1537	Lacaille 5710	7.5	13 43 40		3.328	— 23 41 1.9	2	18.04	
1538	κ Centauri	6.0	13 43 45.32	1	3.442	32 18		18.03	
1539	Anonymous	8.5	13 45 9.08	1	3.392	— 28 23		17.98	
1540	Weisse (2) 978	9.0	13 45 37.36	1	2.807	+ 24 2		17.96	
1541	Lacaille 5729	5.5	13 45 44.78	2	3.483	— 34 37		17.96	
1542	O. Arg. S. 13215		13 45 48.98	1	3.362	— 26 1		17.96	
1543	Weisse (2) 994	8.0	13 46 17.59	1	2.842	+ 21 1		17.94	
1544	Lacaille 5754	6.5	13 47 52.86	2	3.420	— 29 53 22.6	1	17.88	
1545	η Bootis		13 48 1.11	8	2.862	+ 19 6 3.6	1	17.87	
1546	Weisse (2) 1077		13 49 28.43	1	2.783	+ 25 13		17.81	
1547	Lalande 25635		13 49 41		3.325	— 22 20 12.6	1	17.80	
1548	Anonymous	8.0	13 49 54		3.432	30 16 38.8	2	17.79	
1549	Lacaille 5773	6.7	13 50 5.43	3	3.364	25 18 47.1	1	17.79	
1550	Lacaille 5774	7.5	13 50 10		+ 3.415	— 29 3 27.7	1	17.78	
1551	Radcliffe 3117	6.5	13 50 33.85	1	— 0.335	+ 79 41		17.77	
1552	Anonymous	8.3	13 52 2.85	1	+ 3.542	— 36 48		17.71	
1553	Brisbane 4727		13 52 48.04	1	3.545	36 50		17.68	
1554	Anonymous	7.2	13 52 52.85	1	3.576	— 38 35		17.67	
1555	Anonymous	9.0	13 53 50.74		+ 0.320	+ 76 54		— 17.63	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1556	Anonymous		13 54 6		+ 3.527	— 35 30 2.1	1	— 17.62	
1557	τ Virginis		13 54 31.39	1	3.047	+ 2 13		17.60	
1558	Anonymous	7.6	13 55 40.95	2	3.561	— 37 7		17.56	
1559	O. Arg. S. 13357	5.0	13 57 4.57	2	3.417	27 51		17.50	
1560	Lacaille 5812	8.5	13 57 34.26	2	3.567	37 3		17.47	
1561	94 Virginis		13 58 53.21	1	3.168	8 13		17.42	
1562	Anonymous	7.5	13 59 56.28	1	3.406	26 32		17.37	
1563	Anonymous	7.7	14 0 9.76	3	3.497	— 32 23 5.6	1	17.36	
1564	α Draconis		14 0 36		1.639	+ 65 2 46.2	2	17.34	
	S. P.					44.8	6	17.34	
1565	Anonymous	7.2	14 1 3.76	1	3.409	— 26 33		17.32	
1566	Anonymous	7.6	14 1 7.49	1	3.409	26 33		17.32	
1567	Anonymous		14 2 16.71	1	3.414	26 44		17.27	
1568	Lacaille 5838	7.5	14 2 17		3.456	29 25 25.3	1	17.27	
1569	Lacaille 5839	7.0	14 2 40.88	1	3.489	31 25		17.25	
1570	Anonymous	7.2	14 2 58.39	1	3.406	— 26 4		17.24	
1571	d Bootis		14 3 58		2.740	+ 25 45 24.4	1	17.19	
1572	Lacaille 5855	7.0	14 4 30		3.375	— 23 41 9.0	1	17.17	
1573	50 Hydræ	5.5	14 4 45.18	3	3.419	26 36		17.16	
1574	κ Virginis		14 5 25.90	3	3.190	9 37 14.5	1	17.13	
1575	Lacaille 5872		14 8 1.79	1	3.525	— 32 35		17.00	
1576	α Bootis		14 9 16.64	2	+ 2.813	+ 19 54 38.5	6	16.95	
1577	4 Ursæ Minoris	5.0	14 9 26		— 0.355	+ 78 12 19.8	3	16.94	
	S. P.					17.1	1	16.94	
1578	Lacaille 5883	6.0	14 10 7.18	1	+ 3.531	— 32 35		16.91	
1579	Weisse 174		14 10 38.72	1	3.129	— 4 30		16.89	
1580	ι Bootis		14 11 5		2.145	+ 52 0 50.0	1	16.86	
1581	λ Virginis		14 11 32.36	3	3.236	— 12 43 32.2	1	16.84	
1582	O. Arg. S. 13541	6.8	14 12 3.31	2	3.450	27 24		16.82	
1583	Weisse 209		14 12 21.58	1	3.129	4 30		16.80	
1584	Lacaille 5910	6.7	14 13 55.89	2	3.459	27 39 54.0	1	16.73	
1585	Anonymous		14 14 28		3.596	35 20 17.7	1	16.70	
1586	Anonymous	7.3	14 15 44.31	1	3.461	27 30		16.64	
1587	2 Libræ		14 15 53.81	1	3.218	11 4		16.63	
1588	Lacaille 5923		14 15 55.43	2	3.547	32 27		16.63	
1589	Anonymous		14 17 5.82	2	3.464	27 29		16.57	
1590	Lacaille 5932		14 17 11.51	1	3.549	32 20		16.57	
1591	O. Arg. S. 13626	8.0	14 19 12.55	1	3.471	27 17		16.47	
1592	O. Arg. S. 13629	7.7	14 19 21.45	2	3.466	27 16 17.9	2	16.46	
1593	O. Arg. S. 13647	7.4	14 20 26.68	3	3.469	27 17 22.0	2	16.41	
1594	O. Arg. S. 13663	7.0	14 21 27.65	2	3.439	25 23 7.6	1	16.36	
1595	O. Arg. S. 13679	7.0	14 22 38.73	1	3.456	26 13		16.30	
1596	Anonymous		14 22 49.27	1	3.445	25 32		16.29	
1597	Lacaille 5977	7.4	14 23 57.80	1	3.474	27 4 58.5	1	16.23	
1598	O. Arg. S. 13702	7.0	14 24 5.79	1	3.458	26 9		16.22	
1599	O. Arg. S. 13711		14 24 52		3.530	— 30 5 35.5	1	16.18	
1600	ρ Bootis		14 25 47.76	8	2.595	+ 30 59 14.1	1	16.13	
1601	Lalande 26560		14 26 15.48	1	+ 2.595	30 54		16.11	
1602	5 Ursæ Minoris	4.3	14 27 52		— 0.231	+ 76 19 6.6	8	16.03	
	S. P.					5.4	5	16.03	
1603	O. Arg. S. 13757	8.1	14 28 59.52	2	+ 3.452	— 25 11 7.4	1	15.97	
1604	Lacaille 6035	6.7	14 31 48.58	2	3.482	26 31 30.3	2	15.81	
1605	Lacaille 6042	7.0	14 32 17.47	2	3.468	25 39 1.4	1	15.79	
1606	O. Arg. S. 13814	8.8	14 32 22.42	2	3.468	25 38		15.79	
1607	B. A. C. 4842	3.0:	14 33 8		3.700	37 11 24.1	1	15.74	
1608	Lacaille 6060	7.0	14 34 13.74	1	3.499	27 11 9.2	1	15.68	Mural mag. June 10, 9.0.
1609	μ Virginis		14 35 41.18	2	3.146	5 3		15.60	
1610	Anonymous	9.5	14 36 55.29	2	3.470	25 14 0 3	1	15.54	
1611	54 Hydræ	5.0	14 37 54.14	1	3.466	24 51		15.48	
1612	B. A. C. 4865	7.5	14 37 54.63	1	3.466	24 51		15.48	
1613	5 Libræ		14 38 14.86	1	3.298	— 14 52		15.47	
1614	108 Virginis		14 38 22		3.052	+ 1 18 35.5	1	15.46	
1615	ε Bootis		14 38 52.35	3	2.624	+ 27 40		15.43	
1616	56 Hydræ	5.5	14 39 34.86	3	3.481	— 25 59 53.1	2	15.39	
1617	B. A. C. 4888	8.0	14 41 7		3.451	23 39 56.3	1	15.31	
1618	Anonymous	9.0:	14 41 22.34	1	3.719	36 47 36.5	1	15.29	
1619	Lacaille 6109	8.0:	14 41 25		3.609	31 50 25.6	1	15.28	
1620	8 Libræ		14 42 56.87	3	+ 3.313	— 15 25		— 15.20	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1621	α Libræ		14 43 8.30	9	+ 3.313	— 15 27 26.8	5	— 15.18	
1622	B. A. C. 4912	5.0	14 46 5.41	3	3.642	32 45		15.02	
1623	Lacaille 6137		14 46 10		3.642	32 43 34.7	1	15.01	
1624	O. Arg. S. 14046	8.5	14 47 0		3.565	28 57 39.8	1	14.96	
1625	O. Arg. S. 14080		14 48 44.92	2	3.504	25 43		14.86	
1626	Anonymous		14 48 45.58	2	3.415	26 15		14.86	
1627	Lacaille 6162	6.2	14 48 52		3.562	28 35 21.9	1	14.86	
1628	ξ^2 Libræ		14 49 10.55	1	+ 3.244	— 10 51		14.84	
1629	β Ursæ Minoris		14 51 9.33	3	— 0.254	+ 74 43 40.1	8	14.72	
	S. P.					38.4	3	14.72	
1630	B. A. C. 4937		14 51 44		+ 1.979	50 12 6.0	1	14.68	
1631	Weisse (2) 1154	8.0	14 52 57		2.189	+ 43 58 31.0	1	14.61	
1632	Lacaille 6198	5.6	14 54 25.62	1	3.650	— 32 5 16.1	1	14.52	
1633	20 Libræ	3.6	14 55 52.98	1	3.500	24 43 44.4	2	14.44	
1634	O. Arg. S. 14230		14 57 33.88	2	3.512	25 12		14.33	
1635	Anonymous	7.1	14 57 58.50	2	3.448	— 21 53		14.31	
1636	ψ Bootis		14 58 26.78	6	2.583	+ 27 30		14.28	
1637	O. Arg. S. 14257	8.5	14 58 48		+ 3.592	— 28 57 34.2	1	14.25	
1638	B. A. C. 4982		14 59 56		— 4.719	+ 83 5 0.0	4	14.19	
	S. P.	5.7				0.3	3	14.19	
1639	O. Arg. S. 14278	8.2	15 0 17		+ 3.593	— 28 49 27.6	2	14.16	
1640	O. Arg. S. 14279	9.0	15 0 17.31	2	3.446	21 33 20.7	1	14.16	
1641	O. Arg. S. 14289	7.5	15 0 41		3.534	25 57 27.8	1	14.14	
1642	O. Arg. S. 14297		15 1 2.94	1	3.450	21 41		14.12	
1643	Weisse 1149		15 1 20		3.261	11 15 4.4	1	14.10	
1644	O. Arg. S. 14311	6.0	15 2 2.28	2	3.532	25 48		14.06	
1645	Lacaille 6258	6.5	15 3 5.00	1	3.697	33 7		13.99	
1646	ι Libræ		15 4 14.82	5	3.408	19 15		13.92	
1647	O. Arg. S. 14349	7.7	15 4 28.86	2	3.524	25 9		13.90	
1648	O. Arg. S. 14366		15 5 36.15	2	3.548	25 40		13.83	
1649	Anonymous		15 5 39.35	2	3.532	25 25		13.83	
1650	1 Lupi	5.7	15 6 3.06	1	3.655	31 0		13.80	
1651	O. Arg. S. 14395		15 7 17.63	1	3.570	27 4		13.72	
1652	2 Lupi	4.4	15 9 19.07	1	3.631	29 37 51.4	2	13.59	
1653	O. Arg. S. 14421	9.0	15 9 26		3.639	29 57 35.1	1	13.58	
1654	β Libræ		15 9 28.62	13	3.225	8 52		13.58	
1655	O. Arg. S. 14435	9.5	15 10 16		3.649	30 18 32.5	1	13.53	
1656	O. Arg. S. 14436		15 10 17.03	1	3.438	20 21		13.53	
1657	B. A. C. 5039	7.3	15 10 58		3.507	23 45 1.3	1	13.49	
1658	B. A. C. 5041	7.3	15 11 29		3.508	23 45 22.1	1	13.45	
1659	O. Arg. S. 14459		15 11 45.86	1	3.440	— 20 21		13.44	
1660	5 Serpentis	6.0	15 12 10		3.032	+ 2 17 49.5	1	13.41	
1661	Lalande 27907	9.0	15 12 18.55	1	3.469	— 21 45		13.40	
1662	O. Arg. S. 14466		15 12 23.09	1	3.546	25 28		13.39	
1663	Lacaille 6329	7.0	15 12 29.31	1	3.841	37 42		13.39	
1664	Lacaille 6342		15 13 30.34	1	3.689	31 41		13.32	
1665	O. Arg. S. 14487	8.8	15 13 56		3.647	29 52 24.6	1	13.29	
1666	ϕ^2 Lupi		15 14 13.16	1	3.809	36 21		13.27	
1667	O. Arg. S. 14511	9.0:	15 15 20		3.573	26 27 29.6	1	13.20	
1668	O. Arg. S. 14513	8.5	15 16 1.84	2	3.484	22 13		13.16	
1669	O. Arg. S. 14531	7.6	15 16 50.06	2	3.472	— 21 33		13.10	
1670	(* 117) W.	8.3	15 16 56.20	2	1.581	+ 55 49		13.10	
1671	Lacaille 6368	7.6	15 16 57.10	1	3.904	— 39 24		13.10	
1672	O. Arg. S. 14533		15 17 14.38	2	+ 3.602	— 27 36		13.08	
1673	11 Ursæ Minoris	S. P.	15 17 15		— 0.111	+ 72 19 54.1	1	13.08	
1674	O. Arg. S. 14548		15 18 22.84	1	+ 3.602	— 27 29		13.00	
1675	O. Arg. S. 14554	7.7	15 18 35.35	5	3.484	— 22 1		12.99	
1676	μ Bootis		15 19 12.15	3	2.278	+ 37 52		12.94	
1677	Weisse (2) 414		15 19 13.48	1	2.279	+ 37 49		12.94	
1678	Lacaille 6388	6.8	15 20 15.59	1	3.849	— 37 9		12.88	
1679	ζ^1 Libræ		15 20 22.00	1	+ 3.370	— 16 13		12.87	
1680	γ^2 Ursæ Minoris		15 20 59		— 0.155	+ 72 19 55.8	2	12.83	
	S. P.					55.2	4	12.83	
1681	O. Arg. N. 15370		15 21 20.55		+ 1.797	51 5		12.80	
1682	ι Draconis		15 21 39		1.325	+ 59 27 22.3	1	12.78	
	S. P.					26.6	1	12.78	
1683	Lacaille 6405		15 22 29.71	1	3.752	— 33 20		12.72	
1684	Anonymous	7.6	15 22 53.68	2	3.515	23 11		12.70	
1685	Lacaille 6409	6.5	15 23 5.81	3	+ 3.729	— 32 24		— 12.68	

Number.		Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
1686		B. A. C. 5140, S. P.		15 24 0.57	1	+23.519	+ 87 46		— 12.62	
1687		O. Arg. S. 14624	8.5	15 24 1.34	2	3.481	— 21 29 8.6	1	12.62	
1688		Weisse 444	8.4	15 24 43.14	2	3.239	9 6 25.3	2	12.57	
1689		B. A. C. 5110	7.5	15 24 47.08	2	3.565	25 19 19.3	1	12.57	
1690		Lacaille 6415		15 24 48.28	1	3.934	39 36		12.57	
1961		Lacaille 6421		15 25 24.03	1	3.742	32 42		12.53	
1692		O. Arg. S. 14674		15 27 20		3.555	24 40 42.7	1	12.39	
1693		Lacaille 6439	6.0	15 27 24.83	2	3.745	32 37		12.39	
1694	γ	Libræ	4.4	15 27 41.94	4	3.341	14 19		12.37	
1695		Anonymous	9.5	15 27 45		3.535	23 43 47.2	1	12.37	
1696		O. Arg. S. 14687	6.0	15 28 32.04	1	3.625	— 27 40		12.31	
1697	α	Corona Borealis		15 28 45.70	8	2.530	+ 27 11 17.2	2	12.30	
1698		B. A. C. 5145	6.3	15 29 4.94	2	3.583	— 25 48 47.3	2	12.27	
1699		Anonymous	6.6	15 29 20.66	2	3.492	21 39		12.26	
1700		B. A. C. 5147	6.3	15 29 45.44	2	3.629	27 44 31.6	1	12.23	
1701	40	Libræ	6.0	15 30 4		3.668	— 29 18 47.9	1	12.20	
1702		Radcliffe 3415		15 30 58.15	1	2.169	+ 40 18		12.14	
1703		Anonymous	9.0	15 31 0		3.911	— 38 14 58.9	1	12.14	
1704		Radcliffe 3416		15 31 3.83	1	2.171	+ 40 16		12.14	
1705		Lacaille 6473	6.5	15 31 34.85	2	3.705	— 30 45		12.10	
1706		Lacaille 6471	6.5	15 31 50.30	5	3.953	39 32		12.08	
1707		Anonymous	7.7:	15 33 16			39 31 28.3	1	11.98	
1708	κ	Libræ	5.0	15 33 53.06	3	3.446	19 13 17.3	2	11.94	
1709		Lacaille 6491	7.0	15 33 54.79	2	+ 3.736	— 31 44		11.94	
1710		Anonymous	9.0	15 34 20.25	1	— 3.177	+ 80 14		11.91	
1711	η	Libræ	7.0	15 36 12		+ 3.366	— 25 13 22.4	1	11.78	
1712	α	Serpentis		15 37 22.51	5	2.941	+ 6 52 7.7	1	11.69	
1713		O. Arg. S. 14839	8.3	15 37 29.08	3	3.518	— 22 18 35.0	2	11.68	
1714		B. A. C. 5198		15 37 41.70	1	3.641	27 37		11.67	
1715		O. Arg. S. 14871		15 38 58.98	2	3.591	25 26		11.58	
1716		Anonymous	8.5	15 39 3		3.452	19 10 14.9	1	11.57	
1717		Anonymous	8.3	15 39 21.63	2	3.485	20 41 44.0	1	11.55	
1718		B. A. C. 5211	8.0	15 39 31.05	1	3.595	25 32 59.7	1	11.54	
1719		B. A. C. 5220	6.8	15 40 9.01	2	3.546	23 23 52.7	2	11.49	
1720		O. Arg. S. 14904	9.3	15 40 43.38	1	3.449	18 59		11.45	
1721		B. A. C. 5228	6.4	15 42 8.97	4	3.606	25 51 32.2	1	11.35	
1722		O. Arg. S. 14933		15 42 33.94	1	3.594	25 19		11.32	
1723		B. A. C. 5240	8.0	15 43 34.63	1	3.697	— 29 27 28.6	1	11.25	
1724	ε	Serpentis		15 43 50.36	5	2.977	+ 4 54 6.0	2	11.23	
1725		Anonymous		15 44 40		3.602	— 25 31 14.3	1	11.17	
1726		Anonymous	8.1	15 45 8.88	3	3.511	21 32 56.5	2	11.13	
1727	λ	Libræ	5.5	15 45 12.68	2	3.471	19 45		11.13	
1728		B. A. C. 5253		15 45 32.42	1	3.570	24 7		11.10	
1729		Lacaille 6582		15 46 57		3.991	39 26 55.1	1	11.00	
1730		B. A. C. 5265		15 47 5		3.614	25 51 1.0	1	10.99	
1731		O. Arg. S. 15023	7.3	15 47 38.57	3	3.607	25 31		10.95	
1732		Anonymous	8.2	15 48 36.60	3	+ 3.522	— 21 49		10.88	
1733	ζ	Ursæ Minoris, S. P.		15 49 8		— 2.324	+ 78 13 23.8	2	10.84	
1734		B. A. C. 5281	6.5	15 49 29.80	3	+ 3.495	— 20 34		10.81	
1735		O. Arg. S. 15072	7.7	15 50 19.97	1	3.494	20 29		10.75	
1736	π	Scorpii	3.3	15 50 23.30	4	3.615	25 42 22.7	1	10.75	
1737		B. A. C. 5296	6.0	15 50 57.60	3	3.716	29 41		10.70	
1738		Lacaille 6624		15 51 0.06	1	3.806	32 59		10.70	
1739	δ	Scorpii	3.0	15 52 3.62	6	3.535	22 13 10.7	2	10.63	
1740		O. Arg. S. 15112	7.2	15 52 45.91	2	3.575	23 52 1.9	1	10.57	
1741		B. A. C. 5308	7.0	15 53 59.52	2	3.697	28 44 24.3	1	10.48	
1742		O. Arg. S. 15147		15 54 35.40	1	3.575	23 47		10.44	
1743		O. Arg. S. 15183		15 56 35.60	1	3.565	23 14		10.30	
1744		O. Arg. S. 15191		15 56 58.48	1	3.566	23 17		10.26	
1745		O. Arg. S. 15194	7.4	15 57 12.98	3	3.580	23 50 9.1	2	10.24	
1746	β	Scorpii		15 57 18.08	10	3.477	19 25 12.6	2	10.23	
1747		B. A. C. 5330		15 57 18.46	6	3.477	19 25		10.23	
1748		B. A. C. 5335	6.0	15 57 45.72	2	3.566	23 13 15.5	1	10.20	
1749		B. A. C. 5345		15 59 28		3.589	24 4 58.7	1	10.07	
1750		O. Arg. S. 15271	8.4	16 0 18.49	4	+ 3.738	— 29 52 58.4	1	— 10.00	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1751	B. A. C. 5354	6.8	16 0 26		+ 3.572	— 23 18 28.1	1	— 10.99	
1752	Lacaille 6703	7.0	16 0 42.74	1	4.037	39 46		9.98	
1753	Lacaille 6716	7.7	16 1 42.11	1	4.039	39 45		9.90	
1754	B. A. C. 5364	7.4	16 1 43.00	3	3.653	26 32 7.5	2	9.90	
1755	C^2 Scorpii	5.6	16 3 41.06	3	3.682	27 33 32.3	1	9.75	
1756	O. Arg. S. 15360		16 3 50.71	1	3.476	19 5		9.74	
1757	ν Scorpii	4.3	16 3 51.73	2	3.477	19 5 37.8	1	9.74	
1758	O. Arg. S. 15359	8.4	16 3 54.09	3	3.741	29 47		9.73	
1759	O. Arg. S. 15388	8.0	16 5 4.92	4	3.745	29 50 76.0	1	9.64	
1760	B. A. C. 5394	7.0	16 5 20.58	3	3.596	24 3 35.9	1	9.62	
1761	B. A. C. 5395	7.0	16 5 29		3.522	21 2 19.5	2	9.61	
1762	O. Arg. S. 15403	7.2	16 5 39.08	1	3.580	— 23 24 47.8	2	9.60	
1763	B. A. C. 5406 S. P.		16 5 57		0.138	+ 68 10 44.8	2	9.57	
1764	O. Arg. S. 15416	6.8	16 6 15.20	2	3.517	— 20 43		9.55	
1765	δ Ophiuchi		16 7 0.74	5	3.141	3 19 50.8	2	9.49	
1766	Weisse 113		16 7 5.83	1	3.372	14 70		9.49	
1767	B. A. C. 5421	8.0	16 8 7.60	3	3.737	29 23 27.1	1	9.41	
1768	Lacaille 6765		16 8 23		3.883	34 28 13.0	1	9.39	
1769	O. Arg. S. 15466	6.9	16 8 44.05	3	3.525	20 57 4.9	1	9.36	
1770	Lacaille 6774		16 9 12		3.887	34 33 35.8	1	9.32	
1771	Anonymous	8.7	16 10 6.46	2	3.761	30 9 7.6	1	9.26	
1772	Anonymous	8.7	16 10 16.51	3	3.759	30 4 44.7	2	9.24	
1773	Anonymous		16 11 11		3.889	— 34 33 35.8	1	9.17	
1774	Weisse 221	9.5	16 12 3.84	1	2.884	+ 8 58		9.10	
1775	19 Scorpii	5.0	16 12 16		3.598	— 23 49 41.3	1	9.09	
1776	O. Arg. N. 16057	7.0	16 12 22.48	1	1.456	+ 53 34		9.08	
1777	Lacaille 6796	7.0	16 12 25.98	1	3.844	— 32 58		9.07	
1778	Lacaille 6797	7.0	16 12 34.09	1	3.844	32 54		9.06	
1779	σ Scorpii	6.0	16 12 41.00	4	+ 3.635	— 25 15 8.9	1	9.05	
1780	Anonymous	9.5	16 13 3.48	1	— 3.434	+ 79 36		9.02	
1781	Anonymous	9.7	16 13 27.02	1	— 3.440	+ 79 36		8.99	
1782	Lacaille 6806		16 14 0:		+ 3.897	— 34 35 20.5	1	8.95	
1783	O. Arg. S. 15566	7.6	16 14 30.01	4	3.575	22 47 2.2	2	8.91	
1784	Lacaille 6818	7.0	16 15 22.19	1	3.890	34 51		8.84	
1785	B. A. C. 5464, (S. *)		16 15 53		3.748	29 22 22.4	1	8.80	
1786	B. A. C. 5464, (N. *)		16 15 53		3.748	29 22 14.4	1	8.80	
1787	ψ Ophiuchi	5.1	16 15 54.84	3	3.502	19 42 21.1	1	8.80	
1788	O. Arg. S. 15612	9.0	16 17 0		3.612	24 8 19.5	1	8.71	
1789	B. A. C. 5476	7.5	16 17 0.73	4	3.756	29 35 45.1	1	8.71	
1790	ρ Ophiuchi, (S. *)	6.1	16 17 13		3.586	23 7 15.4	2	8.70	
1791	ρ Ophiuchi, (N. *)	6.9	16 17 14		3.586	23 7 11.0	2	8.70	
1792	O. Arg. S. 15643	7.2	16 18 44.53	4	3.741	28 58 4.6	1	8.56	
1793	χ Ophiuchi		16 18 54.80	1	3.468	18 8		8.54	
1794	O. Arg. S. 15659		16 20 32.04	2	3.617	24 12		8.43	
1795	α Scorpii		16 20 49.72	6	+ 3.667	— 26 7 3.3	6	8.41	
1796	η Ursæ Minoris	5.2	16 21 39		— 1.835	+ 76 4 35.4	4	8.34	
	S. P.					34.3	3	8.34	
1797	η Draconis		16 22 7		+ 0.799	+ 61 49 55.5	2	8.31	
1798	O. Arg. S. 15694		16 22 53.84	3	3.764	— 29 35		8.25	
1799	ϕ Ophiuchi		16 23 7.71	1	3.429	16 18		8.23	
1800	O. Arg. S. 15712		16 24 6.39	2	3.528	20 29		8.15	
1801	B. A. C. 5522		16 24 6.39	1	3.813	31 15		8.15	
1802	O. Arg. S. 15713	8.7	16 24 10.89	3	3.537	20 26		8.14	
1803	Anonymous	8.3	16 24 12.38	1	3.528	20 29		8.14	
1804	O. Arg. S. 15725		16 25 26		3.617	23 59 24.5	1	8.05	
1805	Lacaille 6891	8.3	16 27 8.07	1	3.898	33 55		7.90	
1806	B. A. C. 5338	3.5	16 27 10.10	1	3.931	34 58		7.90	
1807	(* 67) W.	9.3	16 27 45.11	2	+ 3.161	— 4 7		7.86	
1808	A Draconis		16 28 16.19	1	— 0.148	+ 69 4		7.82	
1809	Weisse 539	7.0	16 28 54.86	1	+ 3.258	— 8 34		7.76	
1810	ζ Ophiuchi	3.0	16 29 27.11	4	3.296	10 16 48.0	2	7.72	
1811	O. Arg. S. 15783	7.5	16 29 56.35	3	3.586	— 22 36 19.2	2	7.68	
1812	Weisse 562	8.8	16 30 3.85	1	3.067	+ 0 15		7.67	
1813	O. Arg. S. 15788		16 30 7		3.618	— 23 50 46.3	1	7.66	
1814	B. A. C. 5556		16 30 26		3.775	— 29 38 29.9	1	7.64	
1815	Weisse 575	8.1	16 30 37.89	1	+ 3.065	+ 0 20		— 7.63	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1816	Lacaille 6925	9.0:	16 31 24.86	2	+ 3.733	— 28 39 33.3	1	— 7.56	
1817	O. Arg. S. 15834	8.5	16 32 57.76	1	3.628	24 8		7.44	
1818	B. A. C. 5571	7.2	16 33 7.22	4	3.630	— 24 11 32.9	3	7.42	
1819	Weisse 637	9.3	16 33 32.34	3	3.069	+ 0 7		7.39	
1820	Anonymous		16 33 48		4.067	— 38 40 19.6	1	7.36	
1821	Anonymous		16 35 13		4.086	39 7 28.1	1	7.25	
1822	O. Arg. S. 15881	7.6	16 35 21.54	4	3.536	20 25 39.5	3	7.24	
1823	B. A. C. 5600	7.0	16 35 36.48	1	3.713	— 27 11		7.22	
1824	ζ Herculis		16 36 0.54	2	2.296	+ 31 51		7.19	
1825	B. A. C. 5605		16 36 24.37	1	3.809	— 30 32		7.16	
1826	15 Ophiuchi		16 36 45		3.601	22 57 9.0	1	7.13	
1827	B. A. C. 5612	7.2	16 37 55.10	2	3.831	31 14		7.03	
1828	O. Arg. S. 15950	7.4	16 39 8.37	4	3.759	28 42 3.9	1	6.93	
1829	Lacaille 6987		16 40 12		3.912	33 45 49.1	1	6.84	
1830	O. Arg. S. 15977	7.8	16 40 27.62	1	3.434	16 4		6.82	
1831	B. A. C. 5630	7.6	16 40 34.44	2	3.840	31 24		6.82	
1832	18 Ophiuchi		16 41 13.32	2	3.643	24 23		6.76	
1833	Anonymous	10.0	16 41 32.51	1	3.162	4 5		6.73	
1834	Weisse 792	9.0	16 41 44.83	1	3.180	4 54		6.72	
1835	B. A. C. 5641		16 42 51		3.649	24 35 23.9	1	6.62	
1836	Anonymous	9.0	16 43 55.17	1	3.181	4 55		6.54	
1837	O. Arg. S. 16045	8.5	16 44 8.98	3	3.510	19 6 54.7	1	6.52	
1838	O. Arg. S. 16047	7.5	16 44 17		3.807	30 11 27.2	1	6.51	
1839	Weisse 845	7.8	16 44 21.44	3	3.264	8 37 24.1	1	6.50	
1840	Weisse 854	7.2	16 44 46.68	3	3.195	5 32 56.4	1	6.47	
1841	Weisse 859	7.3	16 45 4.46	1	3.181	4 55		6.44	
1842	B. A. C. 5663	6.3	16 45 12		3.537	20 10 37.1	1	6.43	
1843	O. Arg. S. 16076		16 45 42.36	2	3.510	19 5		6.39	
1844	B. A. C. 5678	6.6	16 46 9.92	4	3.839	31 10		6.35	
1845	22 Ophiuchi		16 46 23		3.618	23 16 41.6	1	6.33	
1846	O. Arg. S. 16100	7.6	16 46 42.35	1	3.777	29 2 44.5	1	6.30	
1847	B. A. C. 5684	7.0	16 46 52.92	3	3.842	31 15		6.29	
1848	Anonymous	7.4	16 47 14.32	2	3.372	13 17		6.26	
1849	24 Ophiuchi		16 48 23		3.610	22 55 26.9	1	6.17	
1850	Weisse 958	8.0	16 50 55.68	3	3.164	— 4 7 22.5	2	5.96	
1851	κ Ophiuchi		16 51 2.59	6	2.856	+ 9 35 44.4	1	5.94	
1852	Weisse 981		16 52 26.08	3	3.162	— 4 0		5.83	
1853	B. A. C. 5718	5.0	16 52 49.71	1	3.869	31 56		5.79	
1854	B. A. C. 5721		16 53 23.93	1	3.872	32 0		5.75	
1855	30 Ophiuchi	5.8	16 53 40.70	2	3.162	4 0 33.6	2	5.72	
1856	O. Arg. S. 16233	7.0	16 53 44.62	1	3.600	22 23		5.72	
1857	O. Arg. S. 16235	7.8	16 53 46		3.548	20 23 10.3	1	5.72	
1858	Weisse 1011	8.6	16 53 55.21	2	3.162	4 1		5.71	
1859	B. A. C. 5730	7.1	16 54 58.78	2	3.644	24 2 12.0	2	5.61	
1860	Anonymous		16 55 1.14	1	3.182	4 55		5.61	
1861	O. Arg. S. 16256		16 55 5.84	2	3.521	19 17 11.9	1	5.60	
1862	O. Arg. S. 16262	7.5	16 55 19.15	1	3.727	27 1		5.58	
1863	Anonymous	9.0	16 55 57.44	1	3.776	28 42 48.2	2	5.53	
1864	O. Arg. S. 16291		16 56 0		3.547	20 17 37.3	1	5.53	
1865	O. Arg. S. 16302	7.0	16 57 6.90	2	3.776	28 41		5.43	
1866	Dorpat 2119, (1st *)		16 58 34.47	2	3.387	13 44		5.31	
1867	Dorpat 2119, (2d *)		16 58 34.50	2	3.387	13 44		5.31	
1868	B. A. C. 5768	5.8	16 59 51.14	3	+ 3.824	— 30 12 47.6	1	5.21	
1869	ε Ursæ Minoris		17 0 26.88	2	— 6.438	+ 82 15 41.7	4	5.16	
1870	S. P.	4.0				39.5	6	5.16	
	η Ophiuchi		17 2 21.14	3	+ 3.432	— 15 33		4.99	
1871	B. A. C. 5782		17 2 39		4.135	39 19 37.5	2	4.97	
1872	O. Arg. S. 16420	7.5	17 2 55.26	3	3.719	26 31		4.94	
1873	Weisse 46	7.2	17 4 18.55	4	3.173	4 27 54.9	1	4.82	
1874	B. A. C. 5796	6.0	17 4 39.29	1	3.751	27 37		4.80	
1875	Anonymous		17 4 49		4.146	— 39 35 48.8	1	4.78	
1876	O. Arg. N. 16862	6.7	17 4 51.22	2	1.467	+ 51 1		4.78	
1877	Anonymous	7.2	17 5 47.59	1	3.955	— 33 35		4.70	
1878	O. Arg. S. 16505	8.2	17 6 31.87	1	3.716	26 20		4.64	
1879	O. Arg. S. 16511	6.5	17 6 33.22	1	3.566	20 48		4.64	
1880	B. A. C. 5807	6.5	17 6 38.67	1	+ 3.935	— 33 34		— 4.63	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1881	A Ophiuchi, (1st *)		17 6 44.23	3	+ 3.717	— 26 23		— 4.62	
1882	A Ophiuchi, (2d *)		17 6 44.46	3	3.717	26 23		4.62	
1883	B. A. C. 5809		17 6 58		3.824	— 30 2 41.7	1	4.60	
1884	α Herculis, (1st *)		17 8 15.88	8	2.734	+ 14 33 10.8	4	4.49	
1885	α Herculis, (2d *)		17 8 16.04	5	2.734	+ 14 33		4.49	
1886	O. Arg. S. 16563, (1st *)		17 8 57.54	1	3.721	— 26 28		4.43	
1887	O. Arg. S. 16563, (2d *)	7.7	17 8 57.71	3	3.721	26 28		4.43	
1888	B. A. C. 5833		17 10 14.86	2	3.863	31 12 25.3	1	4.32	
1889	Weisse 186		17 11 33.38	1	3.167	4 9		4.21	
1890	Dorpat 2147	9.5	17 12 27.78	2	3.215	6 16		4.13	
1891	ξ Ophiuchi	6.0	17 12 36.91	1	3.573	20 57 32.5	2	4.12	
1892	θ Ophiuchi	4.0	17 13 24.88	3	3.678	24 51		4.05	
1893	Anonymous		17 14 18		3.877	31 33 37.5	1	3.97	
1894	Anonymous	7.5	17 14 28.74	2	3.878	31 34		3.96	
1895	Lalande 31556	7.5	17 14 45.00	2	3.624	22 52 11.7	2	3.93	
1896	Weisse 254	8.5	17 15 11.76	1	3.214	6 11		3.90	
1897	O. Arg. S. 16710		17 15 31		3.841	30 23 33.0	1	3.87	
1898	Lacaille 7268		17 15 47		3.976	34 33 41.8	2	3.84	
1899	Anonymous		17 15 55		3.971	34 25 41.7	1	3.83	
1900	B. A. C. 5868	6.3	17 16 32.95	5	3.660	24 7		3.78	
1901	b Ophiuchi		17 17 49.36	8	3.658	24 3		3.67	
1902	B. A. C. 5892	7.5	17 19 38.31	2	3.869	31 15 42.9	3	3.51	
1903	O. Arg. S. 16816	8.2	17 19 55.25	3	3.574	20 51		3.49	
1904	O. Arg. S. 16844		17 21 28.15	3	3.535	19 21 22.6	1	3.36	
1905	c^2 Ophiuchi		17 22 52.62	2	3.655	23 51		3.23	
1906	Anonymous	8.5	17 22 56.49	2	3.887	31 43		3.23	
1907	Lacaille 7330	6.0	17 23 8.40	1	3.968	34 10		3.21	
1908	B. A. C. 5914	7.0	17 23 55.07	1	3.928	32 57		3.14	
1909	B. A. C. 5924		17 25 33.53	1	3.891	31 46		3.00	
1910	Anonymous	8.0	17 26 2.97	1	4.126	38 33		2.96	
1911	B. A. C. 5932		17 26 54.47	2	4.126	— 38 32		2.89	
1912	β Draconis		17 27 16		1.354	+ 52 24 24.7	1	2.86	
1913	α Ophiuchi		17 28 26.18	12	2.774	+ 12 39 54.3	4	2.76	
1914	B. A. C. 5943	7.9	17 28 53.74	3	3.787	— 28 20 46.9	1	2.71	
1915	Anonymous		17 29 12		3.570	20 35 55.2	1	2.69	
1916	B. A. C. 5946	7.3	17 29 22.86	3	3.776	27 57 24.7	3	2.67	Est. of magnitude discord't.
1917	O. Arg. S. 17016		17 30 24		3.743	26 50 55.4	2	2.58	
1918	B. A. C. 5960	7.0	17 30 53.75	2	3.905	32 7		2.54	
1919	Anonymous	7.0	17 31 3.61	1	3.902	32 5		2.53	
1920	Anonymous	7.0	17 31 36.22	1	3.905	32 7		2.48	
1921	B. A. C. 5964	6.5	17 31 51.13	1	3.905	32 8		2.46	
1922	B. A. C. 5966	8.0	17 31 56		3.772	27 48 42.2	1	2.45	
1923	Rumker 5903		17 33 0.06	1	4.032	35 52		2.36	
1924	Anonymous	8.0	17 33 18		3.976	34 14 37.6	1	2.34	
1925	o Serpentis		17 33 32.85	1	3.374	12 48		2.31	
1926	O. Arg. S. 17091	7.5	17 33 50		3.643	23 16 34.7	2	2.28	
1927	O. Arg. S. 17094	7.5	17 33 50.53	4	3.654	23 40		2.28	
1928	B. A. C. 5977	6.0	17 33 55.52	1	3.933	32 57		2.28	
1929	B. A. C. 5980	6.5	17 34 25.55	1	3.922	32 36		2.24	
1930	Anonymous	8.0	17 34 30		3.981	34 22 47.6	1	2.23	
1931	B. A. C. 5983	7.0	17 34 31.51	1	3.841	30 4		2.23	
1932	Anonymous		17 35 5		3.877	31 12 18.8	1	2.18	
1933	B. A. C. 5989	6.6	17 35 45.57	2	3.653	23 36 37.9	1	2.12	
1934	Lacaille 7420	7.0	17 36 48.03	1	+ 4.157	— 39 12		2.03	
1935	ω Draconis		17 37 47		— 0.363	+ 68 49 22.6	3	1.94	
	S. P.	4.5				20.8	2	1.94	
1936	Dorpat 2204, (1st *)	7.6	17 38 26.78	3	+ 3.385	— 13 13		1.88	
1937	Dorpat 2204, (2d *)	7.6	17 38 27.13	3	3.385	13 13		1.88	
1938	3 Sagittarii	6.0	17 38 46		3.773	27 46 22.9	1	1.86	
1939	B. A. C. 6011	7.0	17 39 7.15	1	3.925	32 39	1	1.82	
1940	O. Arg. S. 17209	7.2	17 39 10.15	2	3.577	20 46 49.0		1.82	
1941	B. A. C. 6015	6.2	17 39 43		3.748	26 55 13.7	1	1.77	
1942	B. A. C. 6016		17 40 6		3.893	31 39 3.7	1	1.74	
1943	Lacaille 7448	6.7	17 40 6.28	1	4.016	35 19		1.74	
1944	B. A. C. 6017		17 40 18		3.858	— 30 32 39.0	1	1.72	
1945	μ Herculis		17 40 58.80	6	+ 2.369	+ 27 48		— 1.66	

Number.		Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		′	
1946		B. A. C. 6023	6.3	17 41 23.78	3	+ 3.670	— 24 9 25.2	2	— 1.63	
1947		Anonymous	6.8	17 41 43.44	1	4.016	35 19		1.60	
1948		Anonymous	8.4	17 42 11.31	2	3.798	28 34		1.56	
1949		B. A. C. 6029		17 42 57		3.997	34 45 23.1	1	1.49	
1950		Anonymous		17 43 0 56	2	3.798	28 34 45.1	1	1.49	
1951		B. A. C. 6032		17 43 13.26	1	3.881	31 17 8.3	1	1.47	
1952		Anonymous	6.2	17 43 34.15	1	4.005	34 58		1.44	
1953		B. A. C. 6038	7.0	17 44 2.21	1	+ 4.001	— 34 51		1.39	
1954	ψ^1	Draconis		17 44 26		— 1.088	+ 72 12 58.0	3	1.36	
		S. P.	4.5				57.0	2	1.36	
1955		B. A. C. 6043	6.0	17 44 34.80	1	+ 3.997	— 34 42 56.1	1	1.35	
1956		Anonymous	8.0	17 44 50.81	1	3.052	36 20		1.33	
1957		B. A. C. 6046	6.5:	17 45 10		3.987	— 34 25 53.2	2	1.30	
1958		Weisse 903	7.6	17 45 22.95	5	2.867	+ 8 44		1.28	
1959		B. A. C. 6051	5.0	17 45 39.59	1	4.058	— 36 27		1.25	
1960		O. Arg. S. 17340	8.5	17 46 18.59	3	3.584	20 58 49.8	1	1.20	Differs 31″ from Argelander.
1961		B. A. C. 6057	6.3	17 47 6.67	2	3.920	32 26		1.13	
1962		O. Arg. S. 17376	7.8	17 47 58.46	5	3.777	27 50		1.05	
1963		O. Arg. S. 17379		17 48 13		3.755	27 6 39.2	1	1.03	
1964		Anonymous		17 49 35		4.136	38 33 12.2	1	0.91	
1965		B. A. C. 6072	6.2	17 49 46.20	3	3.804	— 28 44		0.89	
1966		Dorpat 2244	7.0	17 49 54.07	1	3.069	+ 0 7		0.88	
1967		B. A. C. 6074, (1st *)	5.0	17 50 5.76	1	3.850	— 30 14		0.87	
1968		B. A. C. 6074, (2d *)	7.8	17 50 6.09	1	3.850	30 14		0.87	
1969		Anonymous	9.0	17 50 12		3.888	— 31 25 28.8	1	0.86	
1970		Dorpat 2245, (1st *)	7.8	17 50 15.94	5	2.629	+ 18 21		0.85	
1971		Dorpat 2245, (2d *)	7.8	17 50 16.12	5	2.629	18 21		0.85	
1972	ξ	Draconis		17 51 6		1.023	+ 56 53 44.6	1	0.78	
		S. P.					42.9	1	0.78	
1973		O. Arg. S. 17443	7.5	17 51 9.39	2	3.584	— 21 1		0.77	
1974	4	Sagittarii		17 51 14.70	2	3.661	23 48		0.76	
1975		B. A. C. 6081		17 51 42		3.567	20 19 27.7	1	0.72	
1976		Anonymous	8.5	17 51 54		+ 4.118	— 38 4 15.1	1	0.71	
1977		O. Arg. N. 17680		17 51 59.37	1	— 2.500	+ 76 31		0.70	
1978		B. A. C. 6083	6.8	17 52 20.19	1	+ 4.056	— 36 22		0.67	
1979		Anonymous		17 52 21.43	2	3.073	— 0 3		0.67	
1980	γ	Draconis		17 53 21		1.391	+ 51 30 24.7	2	0.58	
1981		O. Arg. S. 17506, (1st *)	9.0	17 53 53.23	3	3.640	— 23 1		0.53	
1982		O. Arg. S. 17506, (2d *)	8.5	17 53 53.63	4	3.640	23 1 27.4	1	0.53	
1983		Anonymous	7.5	17 55 26.74	3	3.635	— 22 49 38.8	1	0.40	
1984	95	Herculis, (1st *)	5.5	17 55 33.63	4	3.601	+ 21 36		0.39	
1985	95	Herculis, (2d *)	5.5	17 55 34.12	4	+ 3.601	21 36		0.39	
1986	35	Draconis		17 55 43		— 2.708	+ 76 58 40.0	2	0.37	
		S. P.	5.0				43.0	2	0.37	
1987		Lacaille 7551		17 56 15.39	1	+ 4.064	— 36 34		0.33	
1988	γ^2	Sagittarii		17 56 48.94	4	3.857	— 30 25		0.28	
1989	70	Ophiuchi, (1st *)		17 58 22.74	3	3.013	+ 2 32		0.14	
1990	70	Ophiuchi, (2d *)		17 58 23.17	3	3.013	+ 2 32		0.14	
1991		O. Arg. S. 17648	7.5	17 58 57.20	1	3.591	— 21 13		0.09	
1992		B. A. C. 6131	7.3	17 59 55.62	1	3.880	31 9		— 0.01	
1993		O. Arg. S. 17681	7.3	18 0 5.28	4	3.592	21 16 3.3	1	+ 0.01	
1994		O. Arg. S. 17728	8.5	18 1 20.60	2	3.542	— 19 22 33.0	1	0.12	
1995		Weisse 18	8.8	18 2 25.88	2	3.012	+ 2 34		0.21	
1996		Dorpat 2281	6.5	18 2 36.21	2	2.979	+ 3 58		0.23	
1997		B. A. C. 6160	6.9	18 3 4.37	3	3.811	— 28 55 35.7	1	0.27	
1998		B. A. C. 6161		18 3 11		3.659	— 23 43 31.6	1	0.28	
1999		Dorpat 2288	8.0	18 3 21.15	1	3.013	+ 2 31		0.29	
2000		Anonymous	7.8	18 4 32.28	2	3.642	— 23 9		0.40	
2001	μ	Sagittarii	5.5	18 5 23.46	12	3.587	21 5 29.0	2	0.47	
2002		Anonymous	9.2	18 6 10.69	1	3.532	18 59		0.54	
2003		O. Arg. S. 17892	7.8	18 6 45.67	2	3.532	18 59		0.59	
2004	15	Sagittarii		18 6 55		3.579	20 45 59.9	1	0.60	
2005		O. Arg. S. 17905	7.9	18 7 2.00	2	3.533	19 2		0.61	
2006		O. Arg. S. 17916	8.0	18 7 13.36	2	3.531	18 58		0.63	
2007		B. A. C. 6182	7.0	18 7 14.59	1	3.886	31 22		0.63	
2008		Anonymous	7.5	18 7 26.62	1	3.806	28 46		0.65	
2009		O. Arg. S. 17928	8.0	18 7 30.65	2	3.532	19 0		0.66	
2010		Anonymous		18 8 10.94	1	+ 3.532	— 19 0		+ 0.71	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		s.	
2011	B. A. C. 6188	7.0	18 8 12.12	1	+ 3.885	— 31 20		+ 0.72	
2012	17 Sagittarii		18 8 18		3.574	20 35 11.0	1	0.73	
2013	B. A. C. 6190		18 8 33		3.804	28 41 44.7	1	0.75	
2014	O. Arg. S. 17965	7.5	18 8 43.92	1	3.532	19 1		0.76	
2015	O. Arg. S. 17975		18 9 5		3.657	23 38 3.3	1	0.79	
2016	O. Arg. S. 18015	8.0	18 10 29.92	2	3.523	18 40		0.92	
2017	O. Arg. S. 18017	7.5	18 10 30.94	1	3.523	18 40		0.92	
2018	B. A. C. 6202	6.7	18 11 22.45	1	3.886	31 22		0.99	
2019	O. Arg. S. 18044	8.0	18 11 24.00	2	3.649	23 23		1.00	
2020	Anonymous	8.8	18 12 9.02	1	3.794	28 25		1.06	
2021	B. A. C. 6220	6.6	18 13 8.56	3	3.799	28 34 22.3	1	1.15	Differs 5′ from B. A. C.
2022	B. A. C. 6222		18 13 33.70	2	3.638	22 58 54.7	1	1.18	
2023	η Serpentis		18 14 3.93	1	3.140	2 56		1.23	
2024	Anonymous		18 15 20		4.138	38 38 36.3	1	1.34	
2025	B. A. C. 6236	8.1	18 15 31		3.917	32 21 33.8	2	1.36	
2026	O. Arg. S. 18198		18 17 17		+ 3.586	— 21 6 35.6	1	1.51	
2027	δ Ursæ Minoris		18 17 31		—19.381	+ 86 36 8.0	13	1.53	
	S. P.	4.5				6.9	8	1.53	
2028	B. A. C. 6249	6.5	18 17 41		+ 3.837	— 30 27 59.4	1	1.55	
2029	Anonymous		18 18 10		3.826	29 29 50.7	1	1.59	
2030	λ Sagittarii		18 18 22		3.707	25 29 41.2	1	1.61	
2031	B. A. C. 6266		18 19 37.60	2	3.640	23 5		1.72	
2032	O. Arg. S. 18248		18 19 46.30	1	3.502	17 53		1.73	
2033	B. A. C. 6279		18 21 13.00	1	3.420	14 39		1.85	
2034	B. A. C. 6284		18 21 47.64	1	3.420	14 40		1.90	
2035	23 Sagittarii	7.0	18 21 58.78	2	3.646	23 20 22.2	1	1.92	
2036	Anonymous	9.0	18 22 5		+ 3.916	— 32 22 41.0	1	1.93	
2037	24 Ursæ Minoris		18 22 32		—22.149	+ 86 58 47.3	2	1.97	
2038	O. Arg. S. 18314	8.5	18 22 36.55	2	+ 3.599	— 21 36 59.7	1	1.98	
2039	B. A. C. 6292	7.1	18 23 6.12	2	3.530	18 59 35.8	1	2.02	
2040	B. A. C. 6301		18 24 16		3.531	19 4 7.5	1	2.12	
2041	Anonymous	9.0	18 25 14.06	1	3.870	31 0		2.20	
2042	B. A. C. 6310	7.2	18 25 14.86	6	3.870	30 59 0.4	2	2.20	
2043	Anonymous		18 25 22.98	2	3.870	31 0		2.21	
2044	O. Arg. S. 18395		18 25 53.01	1	3.494	17 38		2.26	
2045	1 Aquilæ		18 27 35.25	14	3.266	8 20 19.6	2	2.41	
2046	B. A. C. 6334	7.0	18 29 10.51	1	3.926	32 47		2.55	
2047	Anonymous	8.0	18 29 20		3.659	23 30 40.4	2	2.56	R. A. perhaps 20s. greater.
2048	O. Arg. S. 18486	7.5	18 29 56.93	2	3.641	23 13		2.61	
2049	Anonymous	8.7	18 30 21		3.905	32 9 9.1	1	2.65	
2050	B. A. C. 6346	7.1	18 30 32.26	3	3.647	23 18 0.4	2	2.66	
2051	O. Arg. S. 18505	8.6	18 31 9.62	3	3.707	25 37		2.72	
2052	O. Arg. S. 18506, (1st *)	8.9	18 31 13.15	3	3.707	25 37		2.72	
2053	O. Arg. S. 18506, (2d *)	7.2	18 31 13.48	3	3.707	— 25 37		2.72	
2054	α Lyræ		18 32 11.91	15	2.013	+ 38 39 21.1	37	2.81	
2055	Anonymous		18 32 55		3.886	— 31 36 15.0	1	2.87	
2056	Lacaille 7823	8.0:	18 33 12		4.159	39 24 52.1	1	2.89	
2057	26 Sagittarii	5.5	18 33 19.14	2	3.660	23 58		2.91	
2058	O. Arg. S. 18564	7.4	18 34 6.59	2	3.565	20 26 28.7	1	2.97	
2059	Anonymous		18 34 15		3.890	31 46 1.1	1	2.99	
2060	2 Aquilæ	5.3	18 34 36.44	1	3.286	9 11		3.02	
2061	O. Arg. S. 18577	6.3	18 34 40.18	2	3.538	19 24 50.9	2	3.02	
2062	O. Arg. S. 18584	8.0	18 35 3.51	1	3.536	19 21		3.05	
2063	O. Arg. S. 18604	6.9	18 35 53.64	2	3.538	19 27 13.9	2	3.13	
2064	O. Arg. S. 18609	8.0	18 36 16.98	1	+ 3.581	— 21 6		3.17	
2065	O. Arg. N. 18534	8.0	18 36 46.92	1	— 1.059	+ 72 17		3.20	
2066	ϕ Sagittarii		18 36 54.55	1	+ 3.748	— 27 8		3.21	
2067	O. Arg. S. 18623	7.0	18 36 57.11	2	3.582	21 8 22.7	1	3.22	
2068	O. Arg. S. 18625	7.6	18 36 57.57	1	+ 3.573	— 20 47 10.5	1	3.22	
2069	Anonymous	7.5	18 38 23.39	1	— 1.046	+ 72 15		3.34	
2070	Lacaille 7854	7.5	18 38 38		+ 4.168	— 39 44 58.6	1	3.37	
2071	B. A. C. 6382	7.8	18 38 47.54	3	3.785	28 25 32.3	2	3.38	
2072	5 Aquilæ, (1st *)		18 39 14.80	1	3.097	1 6		3.42	
2073	5 Aquilæ, (2d *)		18 39 15.62	1	3.097	1 6		3.42	
2074	Lalande 34860	7.2	18 39 58.79	1	3.535	19 23		3.48	
2075	Anonymous	10.0	18 41 8.25	1	+ 3.214	— 6 9		+ 3.58	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
2076	Dorpat 2391	7.0	18 41 9.49	2	+ 3.214	— 6 9		+ 3.58	
2077	Lalande 34916	7.1	18 41 21.15	2	3.532	19 17 44.8	2	3.60	
2078	29 Sagittarii		18 41 21.61	1	3.563	20 29		3.60	
2079	Lacaille 7873	8.0:	18 41 30		4.150	39 19 55.3	2	3.61	
2080	Anonymous		18 41 39.67	1	3.532	19 18		3.62	
2081	B. A. C. 6403	7.0	18 41 57.24	2	3.866	31 7		3.65	
2082	Anonymous	8.5	18 41 59.28	1	3.862	30 52		3.65	
2083	B. A. C. 6414	6.5	18 43 42.19	8	3.858	— 30 54		3.80	
2084	β Lyræ		18 44 54.68	7	2.214	+ 33 12 8.6	4	3.90	
2085	β Lyræ, (comes)		18 44 55		2.214	+ 33 11 29.7	1	3.90	
2086	Weisse 1143	9.0	18 45 28.67	1	3.247	— 7 37		3.95	
2087	33 Sagittarii	6.0	18 45 37.95	1	3.589	21 31		3.97	
2088	ν^1 Sagittarii	4.5	18 45 42.86	1	3.626	22 54 46.3	2	3.97	
2089	Anonymous	8.0	18 45 48		3.624	22 51 18.6	1	3.98	
2090	σ Sagittarii		18 46 34.99	7	3.724	26 28		4.05	
2091	Anonymous		18 46 38.86	2	3.244	7 30		4.05	
2092	ν^2 Sagittarii	6.0	18 46 39.26	2	3.623	22 50 30.6	1	4.05	
2093	Anonymous		18 47 8		4.158	39 40 57.4	1	4.10	
2094	Weisse 1219	9.5	18 48 24.35	1	3.292	— 9 34		4.20	
2095	θ Serpentis, (1st *)		18 49 15.54	1	2.981	+ 4 1		4.28	
2096	θ Serpentis, (2d *)		18 49 17.10	1	2.981	+ 4 1		4.28	
2097	Anonymous	6.6	18 49 21.81	3	3.531	— 19 21		4.29	
2098	ξ^2 Sagittarii		18 49 22.63	2	3.581	21 17		4.29	
2099	O. Arg. S. 18883	8.5	18 49 23.40	1	3.794	28 56		4.29	
2100	Lacaille 7932		18 49 33		3.157	— 39 43 1.4	1	4.30	
2101	Rumker 6881	7.3	18 50 41.83	1	+ 2.566	+ 21 12		4.40	
2102	50 Draconis		18 50 52		— 1.888	+ 75 16 2.5	4	4.41	
	S. P.	4.7				0.5	4	4.41	
2103	O. Arg. S. 18916	8.0	18 51 12.49	3	+ 3.599	— 22 1		4.44	
2104	O. Arg. S. 18915	8.5	18 51 13.65	1	3.791	28 53		4.44	
2105	Weisse 1294	8.2	18 51 27.98	1	3.282	9 9		4.47	
2106	O. Arg. S. 18939	8.7	18 52 15.83	2	3.791	28 54		4.53	
2107	Dorpat 2425, (Sd.)		18 52 57.45	2	3.262	8 18		4.59	
2108	Dorpat 2425, (Nd.)		18 52 57.50	2	3.262	8 18		4.59	
2109	B. A. C. 6485	6.7	18 53 11.18	1	3.621	22 53		4.61	
2110	ζ Sagittarii	3.0	18 53 41.99	1	3.825	30 4 33.5	1	4.65	
2111	Lacaille 7962	7.0	18 53 46		4.105	38 27 0.3	1	4.66	
2112	Lalande 35468	7.5	18 54 0.23	1	3.471	17 3		4.68	
2113	Lalande 35497	6.5	18 54 49.95	4	3.533	19 27		4.75	
2114	Weisse 1398	9.0	18 55 29.27	2	3.243	7 32		4.81	
2115	Dorpat 2437, (1st *)	8.2	18 55 31.76	3	3.094	0 59		4.81	
2116	Dorpat 2437, (2d *)	8.4	18 55 32.92	2	3.094	0 59		4.81	
2117	O. Arg. S. 19007	8.2	18 55 50.91	2	3.548	21 0		4.84	
2118	Weisse 1412	8.7	18 55 55.35	2	2.244	7 34		4.85	
2119	B. A. C. 6505	6.5	18 56 9.80	1	3.689	25 27		4.87	
2120	Anonymous	7.5	18 58 4.24	1	3.634	23 28		5.03	
2121	B. A. C. 6525	5.5	18 58 41.71	2	3.633	— 23 28		5.08	
2122	ζ Aquilæ		18 58 58.50	7	2.758	+ 13 39 32.6:	1	5.10	
2123	B. A. C. 6531		18 59 16.93	1	3.700	— 25 55		5.13	
2124	Dorpat 2447		18 59 20.27	3	3.109	1 38		5.13	
2125	Anonymous	9.5	18 59 37.26	1	3.273	8 51		5.16	
2126	B. A. C. 6533	6.0	18 59 41.20	1	3.671	24 52		5.16	
2127	O. Arg. S. 19120	6.3	19 0 16.76	3	3.631	23 24		5.21	
2128	Lalande 35791		19 0 41.70	1	3.106	1 30		5.25	
2129	B. A. C. 6546	7.6	19 1 1.15	1	3.739	27 20		5.28	
2130	O. Arg. S. 19143	8.0	19 1 6.96	1	3.630	23 25		5.28	
2131	π Sagittarii		19 1 26.17	1	3.573	23 24		5.31	
2132	B. A. C. 6549	6.5	19 1 32.49	2	3.823	21 15		5.32	
2133	Anonymous	7.5	19 3 39.57	1	3.254	8 3		5.50	
2134	Anonymous	8.0	19 4 30.73	1	3.256	8 10		5.57	
2135	20 Aquilæ		19 5 5.01	4	3.256	8 10		5.62	
2136	B. A. C. 6568	6.5	19 5 43.05	2	3.814	30 4		5.67	
2137	Anonymous	10.0	19 6 14.55	1	3.265	8 33		5.71	
2138	Anonymous		10 6 29.18	1	3.595	22 11		5.74	
2139	Lacaille 8045	8.5	19 6 40		3.929	33 46 5.8	1	5.75	
2140	B. A. C. 6577		19 7 17.77	1	+ 3.833	— 30 42		+ 5.80	

Number.		Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
2141		O. Arg. S. 19314	7.6	19 8 0.59	3	+ 3.778	— 28 55		+ 5.86	
2142		Weisse 224	7.5	19 10 7.39	1	3.054	+ 0 49		6.04	
2143		Lalande 36252	8.0	19 10 31.53	1	3.596	— 22 22		6.07	
2144		Anonymous	7.2	19 10 49.30	2	3.634	— 23 49		6.10	
2145	ω	Aquilæ		19 11 14.66	7	2.816	+ 11 21		6.13	
2146		Dorpat 2492	5.7	19 11 25.08	1	3.053	+ 0 50		6.15	
2147		B. A. C. 6604		19 12 10.79	1	3.650	— 24 28		6.21	
2148		B. A. C. 6607	6.5	19 12 14.60	1	3.603	— 22 39 31.6	1	6.22	
2149	δ	Draconis		19 12 31		0.017	+ 67 24 56.9	2	6.24	
		S. P.					55.7	1	6.24	
2150		Anonymous		19 12 35		3.301	— 10 12 49.3	1	6.25	
2151		Dorpat 2497, (1st *)	7.0	19 13 7.55	2	2.953	+ 5 20		6.29	
2152		Dorpat 2497, (2d *)	6.8	19 13 7.58	2	2.953	+ 5 20		6.29	
2153		O. Arg. S. 19459	7.8	19 14 52.18	1	3.772	— 28 56		6.44	
2154		O. Arg. S. 19465	8.0	19 14 59.91	1	3.772	28 56		6.45	
2155		B. A. C. 6627		19 15 38.27	1	3.834	31 4		6.50	
2156		Anonymous	8.4	19 16 7.59	2	3.620	23 26 27.6	1	6.54	
2157		Anonymous	6.0	19 16 9.34	1	3.253	8 9		6.54	
2158		Anonymous		19 16 40.46	1	3.616	23 18		6.58	
2159		Anonymous	8.5	19 17 14.17	2	3.619	23 26		6.63	
2160		B. A. C. 6639	5.8	19 18 5.36	2	3.800	— 30 1		6.70	
2161	δ	Aquilæ		19 18 26.34	8	3.010	+ 2 51 20.5	2	6.73	
2162		Weisse 438	7.4	19 18 33.58	1	3.136	+ 2 54		6.74	
2163		O. Arg. S. 19587	8.5	19 20 13.58	1	3.689	— 26 11		6.88	
2164		Lacaille 8120	6.6	19 21 13.62	2	3.867	32 27		6.96	
2165		Anonymous		19 23 15		3.612	23 23 17.8	1	7.11	
2166		B. A. C. 6677	7.6	19 23 19.11	1	3.750	28 30 11.3	1	7.13	
2167		O. Arg. S. 19674	7.0	19 24 1.14	1	3.603	23 2		7.19	
2168		B. A. C. 6684	6.7	19 24 10.74	2	3.811	30 39		7.20	
2169		O. Arg. S. 19685	9.0	19 24 23.17	2	3.717	27 25		7.22	
2170		Anonymous		19 25 7.18	1	3.719	27 27		7.28	
2171		O. Arg. S. 19708	8.5	19 25 45.51	4	3.715	27 27		7.33	
2172		O. Arg. S. 19713	9.0	19 25 53.44	2	3.715	27 27		7.34	
2173		O. Arg. S. 19715		19 25 57		3.522	19 52 7.9	2	7.35	
2174		Lacaille 8152	7.0	19 26 8.33	1	3.849	32 0		7.36	
2175		O. Arg. S. 19732		19 27 5		3.521	— 19 52 52.2	1	7.44	
2176	μ	Aquilæ		19 27 15		2.918	+ 7 5 4.9	2	7.45	
2177		Weisse 692	8.5	19 28 6.66	1	3.305	— 10 40		7.52	
2178	9	Vulpeculæ	6.7	19 28 23		2.634	+ 19 28 12.6	1	7.54	
2179		Weisse 719	8.3	19 29 5.76	2	2.307	— 10 45		7.60	
2180		Weisse 722	6.5	19 29 9.29	1	2.301	10 28		7.61	
2181	κ	Aquilæ		19 29 21.45	8	3.231	7 20 7.7	2	7.62	
2182	e^1	Sagittarii		19 32 42		3.439	16 36 37.8	1	7.89	
2183		Lacaille 8186	6.7:	19 32 54		3.996	36 57 11.5	1	7.91	
2184		Anonymous	9.0	19 33 33.90	1	3.632	24 33		7.96	
2185		O. Arg. S. 19879	7.5	19 34 9.08	3	3.626	24 20 9.3	1	8.01	
2186	e^2	Sagittarii		19 34 30.48	2	3.434	— 16 27		8.04	
2187		Anonymous		19 35 54.55	1	3.244	+ 8 2		8.15	
2188		Dorpat 2562, (1st *)	9.0	19 35 58.04	2	2.899	8 3		8.15	
2189		Dorpat 2562, (2d *)	8.0	19 35 59.91	2	2.899	+ 8 3		8.16	
2190		Anonymous	7.0	19 36 10.16	2	3.595	— 23 11 9.5	1	8.17	
2191		O. Arg. S. 19909	7.5	19 36 16.71	3	3.605	23 35 38.7	2	8.18	
2192	f	Sagittarii		19 38 11.47	2	3.517	— 20 5 38.4	1	8.33	
2193		Anonymous	9.0	19 39 19.65	1	2.948	+ 4 40		8.42	
2194	γ	Aquilæ		19 39 36.23	8	2.852	+ 16 16 29.8	1	8.44	
2195		Lacaille 8231		19 40 14		4.022	— 38 7 17.5	2	8.49	
2196		O. Arg. N. 19614		19 41 45.82	1	1.127	+ 58 10		8.62	
2197		(* 119) W.	9.2	19 41 52.38	1	1.153	58 25		8.62	
2198	a	Aquilæ		19 43 57.10	17	2.892	+ 8 30 7.8	5	8.79	
2199		O. Arg. S. 20030	7.5	19 44 28.20	2	3.590	— 23 30 40.5	1	8.83	
2200		B. A. C. 6814	6.5	19 45 54.29	1	3.612	24 17 9.5	1	8.94	
2201	57	Aquilæ, (1st *)	5.0	19 47 2.80	1	3.252	8 35		9.03	
2202	57	Aquilæ, (2d *)	5.5	19 47 3.15	1	3.252	8 35		9.03	
2203		B. A. C. 6829		19 47 59.95	1	3.786	— 30 56		9.10	
2204	β	Aquilæ		19 48 26.19	4	2.945	+ 6 3 34.1	4	9.14	
2205		O. Arg. S. 20086	8.5	19 48 37.73	1	+ 3.638	+ 25 27		+ 9.15	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
2206	ε Draconis		19 48 38		− 0.181	+ 69 54 42.2	2	+ 9.15	
2207	O. Arg. S. 20095	8.3	19 48 49.73	1	+ 3.637	− 25 25		9.17	
2208	Dorpat 2601	9.0	19 49 46.15	1	3.040	+ 1 33		9.24	
2209	g Sagittarii	5.2	19 49 59		3.409	− 15 51 34.7	3	9.26	
2210	B. A. C. 6841		19 50 7.51	2	3.782	− 30 55		9.27	
2211	Anonymous	8.0	19 53 8.56	2	2.937	+ 6 32		9.27	
2212	Weisse 1319		19 53 14		3.372	− 14 19 17.7	3	9.28	
2213	Dorpat 2612, (1st *)	8.0	19 54 32.21	2	2.938	+ 6 32		9.61	
2214	Dorpat 2612, (2d *)	9.2	19 54 34.14	2	2.938	6 32		9.61	
2215	Dorpat 2613, (1st *)	8.0	19 54 45.93	3	2.858	10 20		9.63	
2216	Dorpat 2613, (2d *)	8.3	19 54 46.00	3	2.858	+ 10 20		9.63	
2217	Lacaille 8325	7.0	19 55 27		3.568	− 22 57 6.1	2	9.68	
2218	Weisse 1394	7.2	19 55 30.31	2	2.858	+ 10 21		9.69	
2219	Dorpat 2615	7.0	19 56 7.06	1	2.908	+ 7 59		9.73	
2220	O. Arg. S. 20246	7.6	19 59 18.21	1	3.595	− 24 16 53.1	1	9.97	
2221	Anonymous	9.0	19 59 42.86	1	3.456	18 19		10.00	
2222	Weisse 1512	7.5	20 0 43.74	1	3.374	14 39 26.1	2	10.08	
2223	Anonymous	7.2	20 3 39.85	2	+ 3.362	− 14 11		10.30	
2224	λ Ursæ Minoris		20 3 54		−56.111	+ 88 53 25.4	7	10.32	
	S. P.					24.0	3	10.32	
2225	Weisse 81	7.8	20 4 57.45	3	+ 3.361	− 14 12 22.7	1	10.40	
						14 4			
2226	Weisse 122	8.5	20 6 19.66	1	3.357			10.50	
2227	O. Arg. S. 20337	8.5	20 6 41		3.393	− 15 45 18.0	1	10.53	
2228	b^3 Cygni		20 9 18		3.426	+ 36 22 46.7	3	10.72	
2229	O. Arg. S. 20370	9.0	20 9 44.45	1	3.609	− 25 27		10.76	
2230	a^1 Capricorni		20 9 53		3.331	− 12 56 16.7	4	10.77	
2231	33 Cygni		20 10 8		1.392	+ 56 7 51.0	1	10.79	
2232	a^2 Capricorni		20 10 17.00	9	1.332	− 12 58 32.6	8	10.80	
2233	O. Arg. S. 20393	9.0	20 11 20.81	1	3.598	25 6		10.87	
2234	B. A. C. 6992	6.5:	20 12 54.35	1	3.376	15 13 22.7	1	10.99	
2235	O. Arg. S. 20423		20 12 58		3.420	17 6 2.0	1	10.99	
2236	β Capricorni		20 13 8.59	1	+ 3.376	− 15 13 12.9	1	11.01	
2237	κ Cephei. S. P.	4.0	20 13 32		− 1.877	+ 77 17 14.9	2	11.04	
2238	Lacaille 8418	6.5	20 13 59.31	1	+ 3.877	− 35 49		11.07	
2239	Anonymous		20 14 12		3.809	33 29 31.7	1	11.08	
2240	O. Arg. S. 20443	8.5	20 14 23.23	1	3.540	− 22 47 15.4	1	11.10	
2241	Lalande 38208	7.0	20 16 7.09	1	2.900	+ 8 50		11.22	
2242	Anonymous	8.8	20 17 22.28	1	3.524	− 22 15		11.31	
2243	B. A. C. 7034	7.3	20 19 36		3.608	26 3 54.7	2	11.48	
2244	Anonymous	9.3	20 19 52		3.863	35 49 21.6	1	11.49	
2245	B. A. C. 7039	7.5	20 20 10		3.573	24 37 7.3	1	11.52	
2246	B. A. C. 7040	7.0	20 20 25.92	1	3.569	24 26 29.7	1	11.53	
2247	ρ Capricorni	7.0	20 20 52.27	6	3.433	18 16		11.57	
2248	B. A. C. 7049		20 21 20		3.532	22 51 8.8	1	11.60	
2249	O. Arg. S. 20544		20 21 24		3.542	− 23 18 28.1	1	11.60	
2250	ω^1 Cygni		20 22 45		1.826	+ 48 55 13.0	1	11.70	
2251	B. A. C. 7079, (1st *) S.	8.0	20 24 31		3.278	10 47 28.3	2	11.82	
2252	B. A. C. 7079, (2d *) N.	8.0	20 24 31		3.278	+ 10 47 32.1	2	11.82	
2253	Anonymous	9.2	20 25 25.90	1	3.501	− 21 44		11.89	
2254	ω^2 Cygni	4.8	20 25 41		1.857	+ 48 28 57.2	2	11.91	
2255	Lacaille 8492	7.3	20 26 8		3.716	− 30 56 56.6	1	11.94	
2256	ε Delphini	6.0	20 26 31.46	3	2.867	+ 10 49 48.5	2	11.97	
2257	B. A. C. 7111		20 29 32		3.521	− 22 55 38.3	1	12.18	
2258	Weisse 743		20 29 38.07	1	3.026	+ 2 0		12.18	
2259	B. A. C. 7113	6.8	20 29 47.49	3	3.561	− 24 42 47.1	1	12.19	
2260	Anonymous	8.0	20 30 23		+ 3.777	− 33 38 48.2	1	12.24	
2261	B. A. C. 7124		20 30 35		− 0.198	+ 72 3 25.6	2	12.25	
	S. P.					24.1	2	12.25	
2262	Lacaille 8513	8.0	20 31 23		+ 3.847	− 36 17 18.0	1	12.31	
2263	τ^2 Capricorni	6.0:	20 31 24		3.364	15 26 35.3	1	12.31	
2264	Lacaille 8517	6.0	20 51 32.28	1	3.782	33 56		12.32	
2265	B. A. C. 7147	6.5	20 33 2.52	1	3.595	26 29 34.1	2	12.42	
2266	B. A. C. 7148	7.0	20 33 5.00	1	3.641	28 28		12.42	
2267	Lacaille 8537	7.5	20 34 45		3.673	29 54 53.6	2	12.54	
2268	O. Arg. S. 20765	9.0	20 35 16.39	1	3.562	− 25 12		12.57	
2269	Weisse 905		20 35 41.83	2	3.027	+ 2 30		12.60	
2270	Lacaille 8540	7.5	20 35 47		+ 3.837	− 36 19 48.6	1	+ 12.61	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
2271	α Cygni		20 36 39.58	5	+ 2.043	+ 44 46 53.5	6	+ 12.67	
2272	Lacaille 8546	6.5	20 36 48.72	2	3.694	— 30 59		12.68	
2273	B. A. C. 7180	7.7	20 38 3.19	2	3.538	24 19		12.76	
2274	B. A. C. 7181	7.0	20 38 3		3.606	27 22 29.2	2	12.76	
2275	O. Arg. S. 20819	7.5	20 38 6		3.536	24 13 49.3	1	12.76	
2276	O. Arg. S. 20827	7.8	20 38 14.53	1	3.562	25 25		12.77	
2277	Anonymous	7.5	20 38 51		3.624	28 12 26.0	1	12.81	
2278	Anonymous	8.0	20 39 27		3.624	28 15 41.7	1	12.85	
2279	ε Aquarii	6.5	20 40 5		3.253	10 0 20.2	2	12.90	
2280	Lacaille 8574	7.0	20 40 43.91	1	3.679	30 42		12.94	
2281	B. A. C. 7205	6.0:	20 40 58		3.576	— 26 17 41.9	2	12.96	
2282	Weisse 1057	6.7	20 41 22.59	2	3.016	+ 3 8		12.98	
2283	Lacaille 8585		20 42 0.81	1	3.713	— 32 15		13.03	
2284	η Cephei		20 42 26		1.219	+ 61 17 50.2	2	13.05	
2285	Lacaille 8608		20 44 34		3.702	— 32 2 12.7	1	13.20	
2286	μ Aquarii		20 45 5.98	7	3.240	9 30 21.5	2	13.23	
2287	Lacaille 8616	6.8	20 45 42		3.615	28 27 3.8	2	13.27	
2288	B. A. C. 7244	7.1	20 45 47.46	2	3.535	24 48 21.1	1	13.28	
2289	O. Arg. S. 20951	8.0:	20 47 6		3.354	— 15 48 42.5	1	13.36	
2290	57 Cygni		20 48 18		2.118	+ 43 51 30.9	1	13.44	
2291	32 Vulpeculæ		20 48 35.49	1	2.555	+ 27 32		13.46	
2292	20 Capricorni	7.0	20 51 38.46	1	3.420	— 19 34		13.66	
2293	ν Cygni	5.5	20 51 57		+ 2.233	+ 40 37 47.9	1	13.68	
2294	76 Draconis	6.0:	20 52 29		— 3.882	+ 82 0 35.2	1	13.71	
	S. P.					34.3	2	13.71	
2295	Anonymous		20 52 29		— 3.774	— 35 43 31.8	1	13.71	
2296	Lacaille 8642	6.7	20 52 47.99	1	+ 3.715	— 33 26		13.73	
2297	B. A. C. 7290		20 53 16		2.135	+ 43 55 41.4	2	13.76	
2298	Radcliffe 5050		20 53 22		+ 2.137	+ 43 52 23.8	2	13.77	
2299	B. A. C. 7299, S. P.		20 53 49		— 2.448	— 80 1 29.8	3	13.79	
2300	O. Arg. S. 21046	9.0	20 54 0.30	1	+ 3.421	19 47		13.81	
3301	Lacaille 8658	8.0	20 54 31.24	1	3.623	29 39 30.9	1	13.84	
2302	O. Arg. S. 21053	7.6	20 54 47.45	3	3.420	19 47 47.7	2	13.85	
2303	B. A. C. 7312	8.0	20 56 59		3.378	17 42 59.5	1	13.99	
2304	Lacaille 8681	6.3	20 57 41.62	1	3.745	35 11		14.04	
2305	θ Capricorni	5.0	20 58 4		3.378	17 47 11.0	1	14.06	
2306	Lacaille 8691		20 59 4.03	1	3.574	27 51		14.12	
2307	Lacaille 8693		20 59 50.92	1	3.806	37 48		14.17	
2308	O. Arg. S. 21129		20 59 52		3.471	22 53 41.0	1	14.17	
2309	O. Arg. S. 21148	9.1	21 0 43.32	1	3.481	23 29 32.0	1	14.23	
2310	B. A. C. 7340	6.7	21 1 3.91	1	3.495	— 24 11		14.25	
2311	f^2 Cygni		21 1 46		2.063	+ 47 5 13.3	1	14.29	
2312	O. Arg. S. 21162	7.6	21 1 54.81	2	3.470	— 23 5 29.3	1	14.30	
2313	γ Aquarii		21 1 57.84	1	3.270	11 56		14.30	
2314	B. A. C. 7347	8.5	21 2 25		3.468	23 2 41.0	2	14.33	
2315	Lacaille 8722		21 4 3.34	1	3.755	36 20		14.43	
2316	3 Piscis Australis		21 4 58		3.567	28 11 15.9	1	14.48	
2317	B. A. C. 7359	6.7	21 5 8.89	1	3.511	36 20		14.49	
2318	Lacaille 8741	8.0	21 6 33		3.529	— 26 29 13.2	1	14.58	
2319	ζ Cygni		21 6 58.74	7	2.550	+ 29 39 16.3	6	14.60	
2320	Lacaille 8742	6.0	21 7 3.08	1	3.757	— 36 47		14.61	
2321	29 Capricorni	5.0	21 7 57		3.329	— 15 45 2.4	2	14.66	
2322	α Equulei		21 8 49		2.998	+ 4 40 16.3	2	14.72	
2323	O. Arg. S. 21283	8.5	21 10 34.60	2	3.535	— 27 12		14.82	
2324	O. Arg. S. 21290	8.6	21 10 51		3.447	22 37 20.3	2	14.84	
2325	Lacaille 8777	7.0	21 11 39		3.527	26 55 37.2	1	14.88	
2326	Lacaille 8787		21 13 31		3.580	29 45 26.8	1	14.99	
2327	ι Capricorni		21 14 26.76	1	3.350	17 26		15.05	
2328	Anonymous	8.7	21 14 44.75	2	3.451	23 13		15.06	
2329	Lacaille 8791	6.8	21 14 48.85	1	3.770	38 20		15.07	
2330	B. A. C. 7413	5.2	21 14 58.56	3	3.451	— 23 15 50.9	2	15.08	
2331	α Cephei		21 15 14		1.416	+ 61 59 36.0	5	15.09	
2332	1 Pegasi		21 15 36.62	1	2.766	+ 19 12		15.11	
2333	O. Arg. S. 21355	8.0	21 16 11.37	1	3.466	— 24 14		15.15	
2334	Lalande 41550	7.5	21 16 19.77	1	3.460	23 53		15.16	
2335	Anonymous	9.0	21 17 14.72	1	+ 3.458	— 23 53		+ 15.21	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
2336	B. A. C. 7432	5.0	21 17 37.11	1	+ 3.762	— 38 26		+ 15.23	
2337	O. Arg. S. 21374	6.9	21 17 44.55	2	3.467	24 25		15.24	
2338	B. A. C. 7436	6.0	21 17 44.71	1	3.467	24 25		15.24	
2339	Anonymous		21 18 14		3.439	22 55 54.7	1	15.26	
2340 ζ	Capricorni	3.5:	21 18 40		3.439	23 0 54.7	2	15.29	
2341	Lacaille 8821	8.0	21 19 19		3.537	28 19 51.1	2	15.33	
2342 *b*	Capricorni	5.5	21 20 43		3.425	22 24 51.5	1	15.40	
2343	Lacaille 8823	6.7	21 20 47.41	1	3.758	38 42		15.41	
2344	Lacaille 8834	7.8	21 22 35		3.491	26 19 18.1	1	15.51	
2345	O. Arg. S. 21441	8.0	21 23 33		3.482	25 54 57.5	1	15.56	
2346	Lacaille 8839	7.5	21 23 46		3.483	26 1 34.4	2	15.57	
2347 β	Aquarii		21 24 11.19	5	3.163	6 11 4.9	1	15.60	
2348	Lacaille 8846	6.0	21 26 4.13	1	3.705	— 37 16		15.70	
2349 β	Cephei		21 26 50.32	15	0.802	+ 69 57		15.74	
	S. P.					+ 69 56 47.2	3	15.74	
2350	O. Arg. S. 21480	9.5	21 26 51		3.298	— 15 14 55.7	1	15.74	
2351	B. A. C. 7492		21 27 15.04	1	3.441	24 4		15.76	
2352 8	Piscis Australis	6.2	21 28 3		3.488	26 47 35.5	2	15.81	
2353	Anonymous	9.0	21 28 18.01	1	3.680	36 30		15.82	
2354 7	Piscis Australis	5.8	21 28 23		3.619	33 40 17.7	1	15.82	
2355	Lacaille 8854		21 28 24.56	1	3.679	36 29		15.83	
2356 ε	Capricorni		21 29 15		3.371	20 5 27.6	2	15.87	
2357 ξ	Aquarii		21 30 17.78	4	3.193	8 28		15.93	
2358	Anonymous	7.0	21 30 20.30	1	3.758	40 12		15.93	
2359	Lacaille 8870		21 30 58.14	1	3.501	27 54		15.96	
2360	Weisse 739	9.0	21 31 31		3.283	14 41 15.7	1	15.99	
2361	Lacaille 8873	5.8	21 32 1.09	1	3.638	35 8		16.02	
2362	Anonymous	7.7	21 33 18		3.593	33 9 45.2	2	16.09	
2363	Lacaille 8889	7.3	21 33 52		3.592	33 8 29.7	2	16.12	
2364	Lacaille 8887	7.0	21 33 53.00	1	3.706	38 33		16.12	
2365	Lacaille 8891		21 33 56.71	1	3.501	— 28 18		16.12	
2366 9	Cephei		21 34 9		1.612	+ 61 27 4.9	1	16.13	
2367	B. A. C. 7549		21 35 21.30	1	3.436	— 24 47		16.19	
2368	B. A. C. 7550	6.0	21 35 23.22	1	3.363	20 15		16.19	
2369	Lacaille 8896	5.8	21 35 51.75	1	3.713	39 10		16.22	
2370	O. Arg. S. 21596	9.4	21 36 12		3.339	18 49 11.5	2	16.24	
2371	Lacaille 8900	7.2	21 36 20.96	1	3.709	39 4		16.24	
2372 45	Capricorni	5.6	21 36 21		3.302	— 15 23 18.6	2	16.24	
2373 ε	Pegasi		21 37 18.58	15	2.945	+ 9 14 6.8	2	16.29	
2374	Lacaille 8907		21 37 20.99	1	3.500	— 28 45		16.29	
2375	O. Arg. S. 21629	9.0	21 38 53		3.335	18 47 53.8	2	16.37	
2376	Lacaille 8915	5.7	21 39 1.52	1	3.688	38 35		16.38	
2377 θ	Piscis Australis		21 39 30.52	1	3.544	— 31 32		16.40	
2378 11	Cephei		21 39 51.38	1	0.884	+ 70 40 3.7	2	16042	
	S. P.					2.5	2	16.42	
2379	O. Arg. S. 21645	7.7	21 39 57		3.334	— 18 51 32.7	2	16.43	
2380	Lacaille 8923	7.5	21 40 7		3.455	26 31 25.1	2	16.44	
2381	Lacaille 8934		21 41 51		3.476	28 2 58.1	1	16.52	
2382	Lacaille 8941		21 43 26.40	1	3.405	28 3		16.60	
2383	Lacaille 8947	8.8	21 44 27		3.468	27 58 10.8	2	16.65	
2384	O. Arg. S. 21710	8.3	21 45 15.59	1	3.339	19 48		16.69	
2385 γ	Gruis	3.0	21 45 26		3.651	38 1 17.2	2	16.70	
2386 μ	Capricorni		21 45 39.56	3	3.259	14 12 29.8	1	16.71	
2387	B. A. C. 7630	7.5	21 47 21		3.280	15 54 59.3	1	16.79	
2388	B. A. C. 7632		21 47 56		3.640	37 54 55.1	1	16.82	
2389 μ	Cephei	7.0	21 50 11		2.010	— 55 56 57.4	1	16.92	
2390 79	Draconis		21 51 7.59	1	0.735	+ 73 2		16.97	
	S. P.					+ 73 2 24.5	1	16.97	
2391	Lacaille 8981	7.2	21 51 26		3.478	— 29 43 24.7	1	16.98	
2392	Lacaille 8993	7.3:	21 53 11		3.555	34 30 12.2	2	17.06	
2393	B. A. C. 7665	6.9	21 54 29.12	1	3.306	18 34 23.4	2	17.12	
2394	Lacaille 9003		21 54 41		3.443	28 2 18.4	1	17.13	
2395 29	Aquarii, (1st *)		21 54 45		3.293	17 38 16.3	1	17.13	
2396 29	Aquarii, (2d *)		21 54 45		3.293	17 38 13.7	2	17.13	
2397	O. Arg. S. 21841	8.0	21 56 20		3.356	22 27 20.8	2	17.21	
2398 λ	Gruis	3.0:	21 57 38		3.647	40 13 3.6	1	17.27	
2399 *a*	Aquarii		21 58 35.49	4	3.084	0 59 54.9	2	17.31	
2400	B. A. C. 7702	5.0	22 0 13.61	1	+ 3.534	— 34 42		+ 17.38	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
2401	O. Arg. S. 21912		22 0 32		+ 3.295	— 18 30 53.2	1	+ 17.39	
2402	O. Arg. N. 23385	9.0	23 0 53		2.193	+ 52 56 34.2	1	17.41	
2403	O. Arg. S. 21915	9.3	22 0 54:		3.345	— 22 22 20.0	1	17.41	
2404 36	Aquarii	7.1	22 2 2.44	1	3.175	— 8 52 19.5	2	17.46	
2405	O. Arg. N. 23452	6.5	22 2 16		2.212	+ 52 37 28.4	2	17.47	
2406	Lacaille 9047	7.0	22 3 40.71	1	3.598	— 39 1		17.53	
2407 39	Aquarii	6.5	22 4 52		3.243	14 52 53.0	2	17.58	
2408	B. A. C. 7745	5.3	22 5 51		3.382	— 25 52 19.9	2	17.62	
2409 ζ	Cephei		22 6 0		2.070	+ 57 30 43.5	1	17.63	
2410	Anonymous	7.8	22 7 15.47	1	3.385	— 26 24		17.68	
2411 θ	Aquarii		22 9 26.62	3	3.164	8 29		17.77	
2412 ρ	Aquarii		22 12 49.70	1	3.162	8 31		17.90	
2413 γ	Aquarii		22 14 25.44	1	3.094	2 5		17.96	
2414	Lacaille 9113	9.0	22 15 21		3.367	26 32 37.5	2	18.00	
2415	Weisse 331	8.5	22 16 40.51	1	3.195	11 54		18.05	
2416	Weisse 346	8.0	22 17 4.58	1	3.194	— 11 52		18.07	
2417 π	Aquarii		22 18 7.57	2	3.065	+ 0 40		18.11	
2418	O. Arg. S. 22146	8.0	22 18 28		3.270	— 19 3 51.5	1	18.12	
2419 35	Pegasi	5.6	22 20 46.23	1	3.033	+ 3 59 40.9	1	18.21	
2420 ζ	Aquarii, (1st *)		22 21 37.26	1	3.079	— 0 44		18.24	
2421 ζ	Aquarii, (2d *)		22 21 37.41	1	3.079	0 44		18.24	
2422 56	Aquarii		22 22 47		3.222	15 17 59.9	1	18.28	
2423	Lacaille 9159	7.3	22 23 5.19	1	+ 3.411	— 31 46		18.29	
2424	B. A. C. 7851		22 23 57		— 3.698	+ 85 24 4.8	2	18.32	
	S. P.					4.0	2	18.32	
2425	O. Arg. S. 22237	8.3	22 27 5.20	1	+ 3.270	— 20 35		18.43	
2426 η	Aquarii		22 28 9.69	2	3.080	0 50 16.4	2	18.47	
2427 σ^1	Gruis		22 28 17		3.529	41 18 16.0	3	18.47	
2428	B. A. C. 7872	7.0	22 28 41		3.401	32 23 9.0	2	18.48	
2429	Anonymous	8.0	22 28 45		3.401	32 21 54.8	2	18.49	
2430 σ^2	Gruis		22 28 55		3.527	41 18 47.2	3	18.49	
2431 κ	Aquarii		22 30 30.23	1	3.116	4 56 54.3	2	18.55	
2432	O. Arg. S. 22291	8.2	22 30 36.52	1	3.340	27 46		18.55	
2433 ε	Piscis Australis	5.0	22 32 54.11	1	3.333	— 27 46 20.3	1	18.62	
2434 ζ	Pegasi	9.0	22 34 28.90	1	2.985	+ 10 6 6.4	4	18.68	
2435 12	Lacertæ		22 35 12		2.674	39 29 43.1	2	18.70	
2436	O. Arg. N. 24532	9.0	22 35 58		2.395	+ 54 39 20.8	2	18.72	
2437	O. Arg. S. 22373	9.1	22 36 46.76	1	3.314	— 27 1 30.5	1	18.75	
2438 g^2	Aquarii	6.0	22 40 1.45	1	3.241	20 20		18.85	
2439	Lacaille 9256	7.0	22 40 14		3.301	26 38 41.6	2	18.85	
2440	Lacaille 9269		22 41 40.89	1	3.270	— 23 50		18.90	
2441	B. A. C. 7953	6.5	22 41 49		2.363	+ 57 44 42.2	2	18.90	
2442 τ^2	Aquarii	6.0	22 42 10		3.186	— 14 19 48.0	1	18.91	
2443 ι	Cephei		22 44 52		2.127	+ 65 27 53.6	2	18.99	
	S. P.					50.7	3	18.99	
2444 λ	Aquarii		22 45 18.49	3	3.134	— 8 19 23.4	2	19.00	
2445 δ	Aquarii		22 47 13.02	2	+ 3.196	— 16 34		19.05	
2446	B. A. C. 7990, S. P.	4.4	22 47 55		— 0.033	+ 82 24 38.8	3	19.07	
2447	Lalande 44823	6.5	22 47 59.25	1	+ 3.230	— 20 53		19.07	
2448 α	Piscis Australis		22 49 54.43	6	3.308	30 31 47.8	5	19.13	
2449	Anonymous	9.0	22 53 18.57	1	3.125	7 50		19.21	
2450 81	Aquarii	6.0	22 54 6.84	1	+ 3.124	— 7 49		19.23	
2451	B. A. C. 8026		22 55 23		— 0.243	+ 83 35 48.8	2	19.26	
2452 α	Pegasi		22 57 47.37	15	+ 2.980	+ 14 27 9.6	4	19.32	
2453	Lalande 45137	6.6	22 57 48.01	2	3.187	— 17 50		19.32	
2454 59	Pegasi	6.0	23 4 40		3.027	+ 7 57 40.2	2	19.47	
2455	O. Arg. S. 22687		23 6 32		3.209	— 23 55 56.4	2	19.51	
2456	Anonymous	7.2	23 6 42.15	1	3.187	20 27		19.52	
2457 ϕ	Aquarii		23 7 4.23	1	3.108	6 48		19.52	
2458	Lalande 45473	8.5	23 7 7.62	1	3.181	19 38		19.52	
2459	Lacaille 9425	7.2	23 9 0		3.202	23 59 14.5	1	19.56	
2460	Lalande 45545	9.0	23 9 16		3.158	16 19 30.8	2	19.57	
2461	O. Arg. S. 22723	6.0	23 9 22		3.190	— 21 57 53.7	1	19.57	
2462 γ	Piscium		23 9 54.48	4	3.059	+ 2 31		19.58	
2463	Lacaille 9440	6.0	23 11 44.97	1	3.306	— 39 55		19.61	
2464	Anonymous		23 12 28		3.296	39 12 31.0	1	19.63	
2465	Lacaille 9447	8.5	23 12 36		+ 3.192	— 23 35 15.5	2	+ 19.63	

Number.		Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
2466		Anonymous		23 12 57		+ 3.295	— 39 15 40.7	1	+ 19.63	
2467		O. Arg. S. 22766		23 13 2.98	1	3.175	20 47		19.64	
2468		Anonymous		23 13 11		3.260	34 39 48.6	1	19.64	
2469	97	Aquarii	6.0:	23 15 18		3.145	15 48 25.5	1	19.68	
2470		O. Arg. S. 22800	7.7	23 15 47.80	1	3.192	25 23		19.68	
2471		Anonymous	9.0	23 16 14		3.344	34 8 38.0	2	19.69	
2472		O. Arg. S. 22817	9.0	23 17 3.65	1	3.153	— 18 5		19.71	
2473		Radcliffe 6067	8.0	23 18 29.63	1	2.737	+ 54 19		19.73	
2474		Lalande 45892	7.0	23 19 38		3.139	— 16 0 58.0	1	19.75	
2475	κ	Piscium		23 19 45.35	3	3.070	+ 0 29		19.75	
2476	9	Piscium	6.0	23 20 4		3.071	+ 0 21 14.6	2	19.75	
2477		Anonymous	6.8	23 20 9		3.280	— 34 23 39.5	3	19.75	
2478		B. A. C. 8172		23 20 28		3.241	36 18 52.5	1	19.76	
2479		O. Arg. S. 22851	7.0	23 20 37		3.138	— 16 4 7.3	1	19.76	
2480		Radcliffe 6081	8.0	23 20 39.64	1	2.757	+ 54 6		19.76	
2481		B. A. C. 8184	6.0	23 22 17.75	1	3.092	— 5 18		19.79	
2482		Anonymous		23 23 6		3.246	39 6 0.4	2	19.80	
2483		Lacaille 9508	6.5	23 24 32.84	1	3.175	26 31		19.82	
2484		O. Arg. S. 22897		23 25 45.85	1	3.148	20 52		19.83	
2485		Anonymous		23 27 9		3.227	39 2 23.2	2	19.85	
2486		O. Arg. S. 22911	8.0	23 27 17.64	2	3.133	17 46		19.85	
2487		Lacaille 9524	7.3	23 27 27		3.211	— 35 48 1.9	1	19.85	
2488		B. A. C. 8213	5.3	23 27 48.83	2	0.019	+ 86 32 7.5	3	19.86	
		S. P.	5.2				6.1	5	19.86	
2489		Weisse 613	9.0	23 30 5.17	1	3.078	— 1 49		19.89	
2490	ι	Piscium		23 32 45.01	5	3.059	+ 4 52		19.91	
2491	γ	Cephei S. P.	3.0	23 33 38		2.415	+ 76 51 4.5	4	19.92	
2492	A^1	Aquarii	6.3	23 34 18		3.123	— 18 48 1.3	1	19.93	
2493		O. Arg. S. 22993		23 34 28.76	1	3.128	— 20 32		19.93	
2494	τ	Cassiopeiæ		23 40 13		2.889	+ 57 52 20.8	4	19.98	
		S. P.					19.4	3	19.98	
2495	δ	Sculptoris		23 41 37.56	1	3.131	— 28 54		19.99	
2496	21	Piscium	6.0	23 42 17.31	1	3.071	+ 0 18		20.00	
2497		B. A. C. 8287	7.0	23 43 19.47	1	3.109	— 21 0 37.5	2	20.00	
2498		O. Arg. S. 23082	7.0	23 43 31		3.105	19 4 9.2	2	20.00	
2499	108	Aquarii	6.5	23 44 7		3.105	19 41 12.8	2	20.01	
2500		O. Arg. S. 23096	7.7	23 45 3		3.102	18 48 14.0	2	20.01	
2501		Lalande 46769	7.0	23 45 26.25	1	3.102	19 20 23.1	1	20.02	
2502		B. A. C. 8304	6.8	23 46 6.14	1	3.110	25 1		20.02	
2503		O. Arg. S. 23120	9.0	23 47 25.52	1	3.104	— 23 49		20.03	
2504		B. A. C. 8314		23 48 4		2.835	+ 73 37 53.5	4	20.03	
		S. P.	6.0				53.2	4	20.03	
2505		O. Arg. S. 23126	9.4	23 48 34.57	1	3.101	— 23 45		20.03	
2506		Lacaille 9663	6.5	23 50 23.93	1	3.110	33 58		20.04	
2507		Anonymous	9.0	23 51 30.71	1	3.091	— 20 47		20.04	
2508	ω	Piscium		23 52 7.43	4	3.067	+ 6 15		20.04	
2509		O. Arg. S. 23166	7.5	23 52 11.92	1	3.089	— 20 48		20.04	
2510		O. Arg. S. 23176	8.6	23 52 54		3.086	18 47 32.2	3	20.05	
2511	29	Piscium		23 54 38		3.074	3 48 22.7	2	20.05	
2512		O. Arg. S 23204	6.7	23 55 45.95	2	3.081	20 49 41.0	2	20.05	
2513		Lacaille 9715	7.3	23 58 8		3.081	39 58 15.9	1	20.06	
2514		Lacaille 9722	7.0	23 59 5.05	1	3.075	33 35		20.06	
2515		Lacaille 9724	6.7	23 59 39.94	3	3.073	23 53		20.06	
2516		B. A. C. 8375	6.8	23 59 43		3.073	— 39 39 26.7	1	20.06	
2517		Weisse 1222	7.8	23 59 53.86	1	+ 3.072	+ 4 27		+ 20.06	

METEOROLOGICAL OBSERVATIONS

MADE AT THE

U. S. NAVAL OBSERVATORY

DURING THE

YEAR 1864.

INTRODUCTION.

The Meteorological Department was under the charge of Mr. J. R. Eastman, aid, until November 1, when Mr. J. A. Rogers, aid, was assigned to that duty. The observations are made at every third hour of the day and night, commencing with $3h.$ $0m.$, civil time, Washington.

Mr. Thomas Hays and Mr. Dennis Horrigan, watchmen, are the observers. Their instructions inculcate unfailing punctuality and the utmost carefulness in reading.

BAROMETERS.

A standard barometer, made by Mr. James Green, was mounted in the office of the Superintendent during March, 1862. Its cistern is six inches higher than that of the Newman barometer in the northwest room, with which the daily observations are made. Drawings of the instrument are given in the volume for 1862.

Two brackets projecting from a stout mahogany board hold pivots at the extremities of a strong, hollow cylinder of bronzed metal. The pivots are of steel. The upper one has a motion of revolution only, whilst the lower rests in a socket that may be moved laterally by three equidistant capstan-head screws, and thereby admits of adjustment for verticality. Just below the upper pivot, and also at seven inches above the lower one, there are collars, to each of which is secured, perpendicular to the axis of the cylinder, a strong and nearly similar arm of brass. Their purpose is to support the barometer tube and its measuring apparatus. Cylindrical apertures through these arms permit free passage of the measuring rod, the tube being held by collars at their semicircular extremities. The construction of the arms is such that the centres of the apertures for the measuring rod and the barometer tube are parallel with the axis of the large cylinder. A small spirit-level is fitted upon the lower arm perpendicular to that plane.

A third arm, for support of the cistern, is firmly secured to the cylinder by a collar just above the lower pivot. The cistern is an inverted bell glass, four inches in diameter. It is covered with a parallel plate of the same material, whose under surface and the rim of the bell have been ground smooth so as to prevent the passage of dust between them. There are two apertures in the cover, each of which is fitted with an ivory ferule cemented to the glass. The barometer tube passes freely, but not too loosely, through the larger and central one, and the extremity of the measuring apparatus is admitted through the smaller. The cistern is filled with mercury to within one-fourth of an inch of its rim. The external and internal diameters of the barometer tube are respectively 1.0 and 0.8 inch. The measuring apparatus for its mercurial column consists of a hollow brass cylinder 0.8 inch in diameter, having a slender ivory cone at its lower extremity, and a silvered divided scale at the upper. The apex of the former is brought into contact with the surface of the mercury in the cistern by a slow-motion screw that passes through a flange from the rod into the lower arm, which sustains it. The height of the column is read to 0.002 inch by means of the divided scale and a vernier moved by a milled head without and a rack and pinion within the hollow cylinder. Attached to the vernier, and freely movable on the tube with it, there is a cylindrical band that is perforated by oblong, horizontal slits in front and rear. The upper edges of these slits are in the same horizontal plane as 0 of the vernier, and the edge of the rear one is serrated. Rays of light passing through the teeth greatly assist the eye in placing these edges tangent to the convex surface of the mercury in the tube.

The attached thermometer is suspended between the main supporting shaft and the cylinder of the measuring apparatus. Its bulb is 7.5 inches long and 0.9 inch in diameter, and its scale is of silvered brass 6.5 inches long. The latter is divided to half degrees from 37° to 153° Fahrenheit, the length of each degree being 0.095 inch.

The advantages which Green's barometer has over those of Newman's pattern are—

1st. The mobility of the main supporting cylinder and its attached spirit-level permit speedy verification of verticality.

2d. The contact of the zero of the scale and its image can be observed with greater certainty.

3d. The serrated edge permits more accurate reading at the top of the column.

4th. The position of the attached thermometer affords greater probability that the temperature of its mercury and that of the barometer column will be similar.

Newman's barometer.—The barometer in daily use was made by Newman. Its cistern and tube are of glass. The internal diameter of the former is 3.0 inches, and of the latter 0.532 inch. The cap rests in a cylindrical box of bronzed metal five inches deep, the surface of the mercury being visible through slits in the top of the box. The upper end of the tube is held in the arch of a double metallic frame, which is secured in the cap of the box. Pivots at the bottom of the box and top of the arch rest in the sockets of heavy brackets that project from a substantial mahogany board. Three equidistant horizontal screws act against the pivot of the lower socket to effect the vertical adjustment of the tube. The scale by which the height of the mercury column is read is attached to a brass rod within one of the upright frames, and is movable by a slow-motion screw. It is silvered and divided to 0.05 inch, but by means of a vernier may be read to 0.002 inch. There is an ivory point at its lower extremity and within the cistern, and the scale is in adjustment for use when the point and its image are in apparent contact.

The temperature of the mercury within the cistern is shown by a small ivory scale thermometer, which is fitted within the other tube-sustaining frame, its bulb passing below the surface of the mercury. The divisions of the thermometric scale are to 1°, and are supposed to be correct. The instrument is placed between two north windows of the northwest room on the first floor of the building, its cistern 103 feet above mean half-tide of the Potomac river. The adjustments for verticality of the tube have not been changed during the year.

During the year 1864 nine series of comparisons were made with Green's standard by Mr. J. R. Eastman, assisted by Prof. Wm. Harkness and Mr. J. A. Rogers. The ivory point at the lower extremity of the measuring apparatus was readjusted at each reading. The observations of each series occupied about fifteen minutes, and the following transcript of the record for July 6 will indicate the method of observing:

Time.	Green's standard.	Attached therm.	Observer.	Newman's standard.	Attached therm.	Observer.
h. m.	in.	°		in.	°	
July 6, 11 15 a. m.	30.080	76.5	H.	30.072	75.5	E.
	.080		E.	.073		H.
	.080		H.	.070		E.
	.081		E.	.071		H.
	.080		H.	.068		E.
	.079		E.	.069		H.
	.078		H.	.068		E.
	.080		E.	.069		H.
	.077		H.	.069		E.
	30.080	77.0	E.	30.068	75.3	H.

The results, after applying the corrections for temperature and capillarity to each observation, are exhibited in the following table:

COMPARISON OF BAROMETERS, 1864.

Date.	Green's.	Newman's.	G. —N.
	in.	in.	in.
February 27	30.217	30.212	+ 0.005
April 1	29.717	29.714	.003
May 2	29.740	29.735	.005
May 31	29.967	29.964	.003
July 6	29.950	29.944	.006
August 1	29.873	29.866	.007
September 1	30.040	30.036	.004
October 8	29.613	29.607	.006
December 1	30.285	30.277	+ 0.008

It appears from the above table that all observations made with Newman's barometer must be increased by 0.005 inch; but as a large portion of the barometric tables had been prepared before this correction was determined, it has not been applied to the observations for 1864, but will be used in all subsequent reductions. The temperature corrections have been derived from Guyot's tables.*

METEOROLOGICAL OBSERVATORY.

In 1862 a small building for special protection of thermometers was erected about twenty yards southwest of the central edifice. It is constructed of wood, and painted white both inside and without. Its form is octagonal, each side being two feet five inches by six feet three inches high to the eaves. Its roof is of tin, left bright on the under side; the ceiling is of thick plank dovetailed together, and between it and the roof there is open space. The door is on the north side, and it, as well as the sides, is of double lattice-work, with a space of three inches between the inner and outer lattices. They terminate one foot above the ground, and as the building is on a grass-plat, instruments within it should indicate correct temperature. But as there is a dense growth of trees entirely surrounding the Observatory buildings, and the area, enclosed by trees and buildings within which the thermometers are suspended, does not exceed one acre in extent, it may be doubted whether our thermometers show true temperature either during calm and clear weather or high winds. In both cases the enclosed air becomes unduly heated.

THERMOMETERS.

There are four thermometers in the Meteorological Observatory, made specially for the Observatory by Mr. James Green, of New York.

Dry thermometer.—This is a mercurial thermometer, whose bulb is 1.5 inch in length and 0.2 inch in diameter. Its scale is of glass, twelve inches long, 0.8 inch wide, and 0.1 inch thick. The bulb projects about one inch beyond the scale. The divisions of the latter are engraved upon the glass to half degrees from —30° to +125° Fahrenheit. Each division is about 0.032 inch.

Wet thermometer.—This is similar to the preceding in materials, construction, and dimensions. Its scale extends from —35° to +115°. Its bulb is covered with fine linen, which is kept moist by the capillary action of a bundle of fibres that communicate with water in a bird-glass placed close beside it. The linen is changed from time to time when its free action appears to have been impaired by dust.

* Tables, meteorological and physical, prepared for the Smithsonian Institution by Arnold Guyot, P. D., LL. D., Washington, 1859.

Maximum thermometer.—This differs from the instrument described only in the addition of a small register above the column of mercury, and in the extent of its scale. The register is of steel; and to obviate as far as possible the risk of entanglement from the action of mercury, a small porcelain disk is interposed between its extremity and the top of the column. The scale of this instrument extends from -32° to $+163^\circ$ Fahrenheit.

Minimum thermometer.—This is a transparent spirit thermometer, with bulb and tube of the same form, but somewhat greater dimensions than those of the other instruments. Its scale is of the same material and size, and is divided from -18° to $+105^\circ$. Its registering index is a short piece of delicate steel wire enclosed in thin blue glass, with a knob at its outer extremity, or that farthest from the bulb. It floats freely in the spirit. The thermometers are suspended on metallic frames five feet from the ground, and near the centre of the building. The frames are attached to a short metallic support, firmly secured to the ground. Rods placed across the building prevent accidental disturbance of the thermometers, or too near approach of the person in reading. For night observations the lantern is placed on a slide, which permits vertical or rotary motion, so that its pencil of rays falls upon the top of the columns to be noted. The registering thermometers are in a horizontal position beside each other and above the other two instruments, which are also near and parallel. The former are read only at 6 p. m. daily, after which their indices are readjusted by means of a small magnet kept for that purpose within the building.

Solar thermometer.—This instrument also was specially made by Mr. Green. It is a mercurial thermometer, twelve inches long, with a blackened spherical bulb enclosed with its tube within a cylinder of glass of the same form as itself, but of about three times the diameter. Air has been exhausted from the cylinder, in the centre of which it is kept by cork collars, one of them being near each extremity. The tube is divided to constitute the scale, and is numbered to whole degrees from $+5^\circ$ to $+173^\circ$ Fahrenheit. The engraved marks are rendered distinct by a band of white porcelain at the back of the tube. Just above the bulb the tube is contracted, so that, with the tube in a horizontal position, expanding mercury passes freely; but at each decrease of temperature the column is broken there, and its summit marks the highest temperature since the previous adjustment.

The instrument rests in metallic crutches, three inches high, attached to a board sixteen by five inches, which is painted green and placed on the grass. The tube lies very nearly parallel with the surface of the ground, and for adjustment is raised to a vertical position after every observation.

INVESTIGATION OF ERRORS.

During the early part of 1862, and before the new thermometers were permanently placed for observation, a series of comparisons was made between them and the standard, whose errors were investigated by Mr. S. C. Walker.* In those comparisons the standard was placed near the centre of a board, with the new thermometers around and close to it, and their bulbs in contact with the board. The resulting errors of the new instruments for temperature below $+50^\circ$ are published in the introduction to the Meteorological Observations for 1862, page 665, and are pretty uniformly in excess of 1° for each of the instruments.

Afterwards the standard was suspended beside the other thermometers and comparisons noted at different temperatures during the year 1863. In these, the bulbs were not in contact with any substance. These comparisons† discredit all the early observations, but more especially those below $+50^\circ$, which may have been affected by contact of the bulbs with the board.‡ The corrections derived from this series of comparisons are as follows:

---

* Astronomical Observations made at the Observatory, Washington, in 1845, Appendix, page 54.

† Washington Astronomical Observations, 1863, page 435.

‡ Washington Astronomical Observations, 1863, page 434.

CORRECTIONS TO THERMOMETERS.

Temp.	Dry.	Max.	Min.	Temp.	Dry.	Max.	Min.
°	°	°	°	°	°	°	°
24	− 0.2	+ 0.2	− 0.1	60	+ 0.1	0.0	+ 0.2
25	.1	.2	.1	61	.1	.0	.2
26	.0	.1	.1	62	.1	+ .1	.3
27	.0	.1	.0	63	.1	.1	.3
28	.0	.1	.0	64	.1	.1	.4
29	.0	.1	.0	65	.2	.1	.4
30	.0	.1	.0	66	.2	.0	.4
31	.0	.2	.0	67	.2	.0	.4
32	+ .1	.2	+ .1	68	.2	.0	.2
33	.1	.3	.1	69	.2	.0	.1
34	.1	.2	.0	70	.2	.1	.0
35	.1	.2	.0	71	.2	.2	− .1
36	.1	.1	.0	72	.1	.4	− .1
37	.1	.1	.1	73	.0	.3	+ .1
38	.1	.2	.1	74	.0	.1	.2
39	.2	.3	.2	75	.0	.0	.2
40	.2	.5	+ .5	76	.1	.0	.2
41	.0	.1	− .2	77	.1	.0	.2
42	− .2	.1	− .2	78	.2	.1	.3
43	.3	.1	+ .1	79	.6	.2	.4
44	.1	.1	.2	80	.1	.0	.2
45	.0	.2	.3	81	.1	.2	.2
46	+ .1	.2	.2	82	.1	.2	.2
47	.2	.2	.2	83	.1	+ .1	.2
48	.2	+ .2	+ .3	84	.2	− .2	.3
49	.2	− .1	− .1	85	+ .3	− .2	.4
50	.0	− .1	− .2	86	− .1	+ .2	.4
51	.0	+ .3	+ .2	87	.2	.4	.4
52	.0	.3	.2	88	.0	.5	.3
53	.0	.3	.2	89	+ .2	.3	.2
54	.0	.3	.2	90	.1	.1	.1
55	.0	.2	.2	91	.2	.0	.2
56	.0	+ .1	.1	92	.3	.2	.3
57	.1	.0	.1	93	.2	.3	.3
58	.1	− .1	.1	94	+ 0.1	+ 0.2	+ 0.2
59	+ 0.1	− 0.1	+ 0.1				

No comparisons were made in 1864. These are the best results attainable from data yet collected, but as they are not regarded as entirely conclusive, they have not been applied to the tri-hourly observations.

DIRECTION AND FORCE OF THE WIND.

A vane revolves freely on a spindle at the top of the time-ball staff, and the point of the compass to which it is directed is estimated from the known azimuths of the lines of the building. A close approximation to the truth is arrived at during daylight; but at night, and especially on cloudy ones, when the vane is not visible as a guide, the recorded directions are probably no more reliable than as rough guesses.

The velocity of the atmospheric current is stated in numerals, of which 0 denotes a calm, 1 a very light breeze, and so on to 10, a violent gale. These numbers, under the head "Force," are mere estimates, and, at best, are only approximative.

CLOUDS.

In the description of the prevailing forms of clouds, the nomenclature of Howard is used; C., K., S., N., being symbols for the forms which he denominates *cirrus, cumulus, stratus, nimbus,* and the double letters C. S., C. K., &c., their combinations, to indicate *cirro-stratus, ciro-cumulus,* &c. The portion of the sky obscured is simply a naked-eye estimate from careful scrutiny of the whole hemisphere. A clear sky is denoted by 0, and total obscuration by 10

RAIN-GAUGE.

This instrument is placed within the enlosure for the solar thermometer to the southwest of the main building. It is a cylinder, 4.1 inches in diameter, soldered to an inverted cone, which is loaded with lead on the outside and near the apex. The cone rests in an aperture of a box whose top is horizontal, and this aided by the lead, prevents disturbance during violent winds. The top of the gauge is 2.0 feet above the ground, and it is free from all shelter during driving rains. There is an aperture at the apex of the cone, through which, as it descends, the rain-water passes to a receiving bottle within the box, and the water thus collected is measured in a graduated glass cylinder with an internal diameter of 0.60 inch. It was measured at least once in each day, and as the apex of the cone closes the mouth of the bottle, except through the small aperture, there is little or no loss by evaporation. Each inch of snow is assumed equivalent to 0.111 inch of rain.

The transcripts from the journal and computations of results were made by Mr. J. R. Eastman, aid. This officer made daily scrutiny of the journal during the year, as well for the detection of inaccuracies as for the omission of subjects proper for entry, and before the circumstances of the observation could have been forgotten by the observer.

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
January 1	29.460	29.428	29.387	29.476	29.533	29.641	29.871	29.990
2	30.119	30.159	30.223	30.340	30.329	30.313	30.358	30.390
3	30.381	30.389	30.376	30.358	30.296	30.227	30.219	30.187
4	30.154	30.129	30.141	30.170	30.131	30.111	30.103	30.099
5	30.053	29.989	29.849	29.821	29.781	29.842	30.020	30.140
6	30.181	30.227	30.262	30.306	30.292	30.274	30.303	30.339
7	30.395	30.436	30.453	30.485	30.415	30.344	30.293	30.221
8	30.139	30.061	30.016	30.041	30.004	29.977	30.005	30.029
9	30.033	30.053	30.087	30.143	30.148	30.151	30.169	30.161
10	30.166	30.140	30.139	30.173	30.139	30.053	30.072	30.074
11	30.073	30.056	30.051	30.050	29.977	29.920	29.910	29.943
12	29.942	29.949	29.936	29.978	29.917	- - -	29.878	29.841
13	29.791	29.761	29.741	29.770	29.734	29.739	29.790	29.833
14	29.819	29.837	29.861	29.931	29.909	29.879	29.893	29.916
15	29.883	29.831	29.773	29.765	29.727	29.734	29.824	29.909
16	29.950	30.033	30.086	30.184	30.210	30.239	30.279	30.332
17	30.313	30.328	30.338	30.331	30.284	30.234	30.211	30.199
18	30.191	30.335	30.061	30.010	29.885	29.783	29.697	29.629
19	29.563	29.483	29.383	29.344	29.316	29.342	29.465	29.611
20	29.675	29.867	29.961	30.049	30.043	30.053	30.096	30.172
21	30.204	30.223	30.245	30.297	30.301	30.340	30.371	30.387
22	30.355	30.323	30.281	30.254	30.178	30.110	30.121	30.172
23	30.183	30.192	30.198	30.231	30.166	30.075	30.028	29.974
24	29.912	29.889	29.851	29.830	29.751	29.701	29.693	29.673
25	29.647	29.651	29.654	29.687	29.676	29.671	29.726	29.706
26	29.627	29.552	29.514	29.602	29.682	29.735	29.821	29.877
27	29.909	29.919	29.942	29.963	29.929	29.893	29.927	29.957
28	29.981	29.999	30.052	30.112	30.099	30.044	30.058	30.055
29	30.044	30.038	30.032	30.066	30.025	29.980	30.001	30.021
30	30.044	30.048	30.071	30.122	30.118	30.077	30.106	30.090
31	30.097	30.118	30.140	30.187	30.184	30.152	30.241	30.261
Hourly means.	30.009	30.014	30.003	30.035	30.006	29.988	30.018	30.038

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
February 1	30.233	30.170	30.122	30.039	29.929	29.836	29.851	29.895
2	29.886	29.858	29.841	29.863	29.795	29.714	29.675	29.670
3	29.609	29.554	29.553	29.634	29.648	29.671	29.761	29.836
4	29.822	29.815	29.808	29.788	29.694	29.599	29.613	29.626
5	29.611	29.603	29.623	29.654	29.615	29.574	29.572	29.578
6	29.572	29.595	29.607	29.638	29.634	29.631	29.662	29.682
7	29.665	29.667	29.667	29.711	29.707	29.645	29.651	29.641
8	29.619	29.586	29.579	29.613	29.628	29.638	29.729	29.821
9	29.857	29.870	29.883	29.939	29.923	29.871	29.901	29.986
10	30.015	30.036	30.076	30.141	30.137	- - -	30.260	30.327
11	30.360	30.368	30.376	30.410	30.340	30.205	30.135	30.076
12	30.003	29.963	29.845	29.812	29.757	29.731	29.801	29.863
13	29.870	29.839	29.853	29.889	29.813	29.739	29.722	29.682
14	29.651	29.611	29.579	29.570	29.609	29.707	29.865	29.978
15	30.011	30.011	30.013	29.999	29.925	29.816	29.747	29.683
16	29.597	29.483	29.443	29.354	29.363	29.456	29.604	29.749
17	29.821	29.842	29.899	29.964	30.015	30.105	30.226	30.320
18	30.394	30.432	30.490	30.513	30.466	30.400	30.416	30.500
19	30.531	30.565	30.597	30.609	30.548	30.421	30.377	30.359
20	30.310	30.284	30.241	30.227	30.182	30.082	30.066	30.056
21	30.032	29.979	29.984	29.999	29.962	29.923	29.948	29.941
22	29.933	29.919	29.913	29.910	29.878	29.771	29.790	29.792
23	29.803	29.829	29.854	29.898	29.849	29.769	29.741	29.709
24	29.649	29.654	29.674	29.694	29.694	29.748	29.855	29.911
25	29.933	29.940	29.951	29.950	29.865	29.722	29.660	29.651
26	29.676	29.661	29.679	29.730	29.813	29.978	30.005	30.053
27	30.097	30.115	30.159	30.211	30.186	30.108	30.086	30.049
28	29.989	29.977	29.969	29.976	29.943	29.891	29.881	29.869
29	29.843	29.843	29.885	29.965	30.011	30.039	30.105	30.152
Hourly means.	29.910	29.899	29.902	29.921	29.894	29.850	29.886	29.912

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
March 1	30.147	30.123	30.099	30.073	29.962	29.898	29.824	29.826
2	29.852	29.902	29.959	30.009	30.013	29.996	30.033	30.114
3	30.162	30.221	30.304	30.359	30.324	30.239	30.228	30.213
4	30.155	30.090	30.039	30.027	29.898	29.775	29.743	29.710
5	29.640	29.590	29.557	29.539	29.484	29.469	29.545	29.614
6	29.612	29.638	29.655	29.693	29.685	29.645	29.672	29.683
7	29.687	29.667	29.655	29.691	29.683	29.635	29.656	29.692
8	29.706	29.697	29.672	29.693	29.682	29.706	29.805	29.881
9	29.937	29.983	30.051	30.120	30.124	30.065	30.069	30.089
10	30.064	29.999	29.941	29.913	29.837	29.745	29.613	29.545
11	29.540	29.544	29.560	29.540	29.458	29.367	29.353	29.423
12	29.493	29.590	29.670	29.739	29.765	29.750	29.764	29.802
13	29.791	29.748	29.713	29.722	29.673	29.668	29.754	29.841
14	29.786	29.836	29.929	30.028	30.045	30.006	30.012	30.034
15	30.026	29.998	29.979	29.953	29.875	29.834	29.882	29.924
16	29.901	29.873	29.873	29.885	29.855	29.831	29.859	29.903
17	29.931	29.941	29.959	29.987	29.916	29.838	29.798	29.818
18	29.781	29.761	29.754	29.718	29.588	29.480	29.471	29.542
19	29.619	29.687	29.760	29.794	29.754	29.690	29.708	29.744
20	29.802	29.821	29.839	29.834	29.778	29.676	29.702	29.819
21	29.898	29.969	30.048	30.082	30.065	30.030	30.038	30.103
22	30.125	30.102	30.125	30.161	30.162	30.003	29.989	29.978
23	29.961	29.948	29.943	29.944	29.926	29.871	29.891	29.957
24	29.983	30.004	30.058	30.109	30.100	30.049	30.054	30.042
25	30.024	30.003	29.983	29.987	29.940	29.821	29.744	29.585
26	29.481	29.395	29.438	29.472	29.542	29.628	29.725	29.831
27	29.885	29.978	30.032	30.072	30.060	30.033	30.059	30.076
28	30.090	30.091	30.106	30.140	30.088	30.008	29.987	30.000
29	29.929	29.883	29.864	29.830	29.716	29.578	29.461	29.465
30	29.370	29.289	29.293	29.261	29.268	29.285	29.323	29.369
31	29.485	29.425	29.485	29.528	29.540	29.562	29.640	29.684
Hourly means.	29.834	29.832	29.850	29.868	29.832	29.780	29.787	29.816

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1863.	in.	in.	in.	in.	in.	in.	in.	in.
April 1	29.689	29.689	29.708	29.711	29.692	29.648	29.637	29.626
2	29.577	29.540	29.481	29.479	29.447	29.433	29.471	29.516
3	29.556	29.587	29.667	29.740	29.754	29.791	29.844	29.909
4	29.953	29.964	29.989	29.989	29.995	29.936	29.895	29.858
5	29.800	29.745	29.725	29.741	29.753	29.728	29.769	29.827
6	29.851	29.877	29.946	29.988	29.986	29.978	30.015	30.070
7	30.064	30.080	30.105	30.140	30.104	30.047	30.037	30.048
8	30.015	29.995	29.990	30.007	29.989	29.931	29.903	29.936
9	29.962	29.948	29.966	29.999	29.926	29.862	29.814	29.687
10	29.641	29.550	29.518	29.553	29.563	29.547	29.572	29.642
11	29.682	29.725	29.763	29.810	29.823	29.821	29.846	29.924
12	29.919	29.925	29.931	29.921	29.878	29.801	29.798	29.803
13	29.789	29.740	29.754	29.794	29.753	29.758	29.809	29.881
14	29.898	29.874	29.892	29.893	29.882	29.854	29.847	29.876
15	29.852	29.823	29.819	29.805	29.750	29.683	29.636	29.639
16	29.608	29.581	29.583	29.578	29.548	29.505	29.543	29.597
17	29.622	29.637	29.705	29.762	29.798	29.783	29.815	29.884
18	29.903	29.915	29.939	29.935	29.897	29.845	29.847	29.874
19	29.856	29.826	29.844	29.874	29.846	29.804	29.822	29.857
20	29.854	29.852	29.847	29.861	29.846	29.834	29.846	29.922
21	29.922	29.920	29.963	30.016	30.028	30.017	30.033	30.100
22	30.126	30.153	30.196	30.210	30.183	30.135	30.136	30.152
23	30.109	30.107	30.092	30.096	30.038	29.973	29.941	29.972
24	29.982	29.996	30.008	29.997	29.948	29.914	29.907	29.895
25	29.831	29.757	29.733	29.740	29.739	29.696	29.712	29.752
26	29.784	29.791	29.829	29.797	29.779	29.778	29.809	29.852
27	29.813	29.797	29.816	29.802	29.752	29.674	29.664	29.802
28	29.849	29.881	29.934	30.924	29.889	29.894	29.962	30.065
29	30.100	30.123	30.142	30.152	30.106	30.056	30.056	30.083
30	30.078	30.065	30.046	30.032	29.955	29.849	29.828	29.796
Hourly means.	29.856	29.849	29.864	29.911	29.855	29.819	29.827	29.862

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
May 1	29.737	29.740	29.740	29.778	29.764	29.738	29.727	29.783
2	29.783	29.771	29.767	29.752	29.687	29.565	29.572	29.632
3	29.632	29.652	29.677	29.722	29.727	29.728	29.759	29.840
4	29.877	29.899	29.963	29.994	30.013	29.987	30.013	30.072
5	30.126	30.140	30.196	30.224	30.177	30.121	30.093	30.107
6	30.104	30.093	30.083	30.058	30.005	29.919	30.884	30.897
7	29.884	29.855	29.868	29.884	29.838	29.781	29.757	29.779
8	29.778	29.758	- - -	29.793	29.777	29.716	29.668	29.688
9	29.692	29.686	29.726	29.738	29.698	29.621	29.587	29.633
10	29.679	29.594	29.608	29.583	29.536	29.470	29.448	29.482
11	29.534	29.547	29.698	29.589	29.557	29.518	29.576	29.664
12	29.698	29.707	29.727	29.716	29.701	29.667	29.671	29.688
13	29.671	29.637	29.643	29.675	29.654	29.640	29.640	29.646
14	29.614	29.821	29.632	29.668	29.664	29.647	29.679	29.764
15	29.773	29.781	29.819	29.853	29.818	29.789	29.801	29.865
16	29.855	29.871	29.891	29.906	29.883	29.835	29.817	29.840
17	29.811	29.791	29.809	29.820	29.805	29.731	29.694	29.716
18	29.695	29.669	29.681	29.698	29.660	29.652	29.676	29.711
19	29.707	29.712	29.738	29.803	29.796	29.757	29.779	29.841
20	29.841	29.831	29.869	29.877	29.853	29.792	29.775	29.806
21	29.797	29.774	29.781	29.774	29.722	29.667	29.631	29.644
22	29.628	29.627	29.627	29.587	29.669	29.646	29.687	29.816
23	29.903	29.911	29.961	29.979	29.923	29.865	29.806	29.819
24	29.797	29.766	29.766	29.765	29.739	29.684	29.634	29.738
25	29.679	29.712	29.732	29.722	29.716	29.673	29.667	29.711
26	29.676	29.647	29.620	29.608	29.571	29.520	29.505	29.542
27	29.520	29.511	29.546	29.571	29.584	29.579	29.615	29.687
28	29.700	29.730	29.791	29.809	29.813	29.797	29.819	29.866
29	29.909	29.949	29.985	30.004	29.985	29.906	29.891	29.906
30	29.890	29.897	29.900	29.904	29.895	29.856	29.843	29.886
31	29.891	29.915	29.950	29.970	29.948	29.904	29.866	29.882
Hourly means.	29.770	29.774	29.793	29.801	29.780	29.767	29.761	29.805

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
June 1	29.889	29.890	29.919	29.912	29.870	29.805	29.777	29.793
2	29.787	29.799	29.849	29.884	29.894	29.905	29.891	29.921
3	29.907	29.924	29.933	29.952	29.949	29.933	28.933	29.961
4	29.991	29.984	30.015	30.038	30.023	29.983	29.961	29.952
5	29.925	29.911	29.881	29.874	29.849	29.810	29.791	29.809
6	29.800	29.791	29.809	29.829	29.805	29.767	29.845	29.881
7	29.911	29.981	30.066	30.165	30.191	30.140	30.132	30.173
8	30.176	30.156	30.153	30.130	30.070	29.986	29.893	29.859
9	29.750	29.650	29.590	29.533	29.456	29.401	29.378	29.430
10	29.443	29.514	29.582	29.675	29.736	29.742	29.758	29.818
11	29.844	29.844	29.888	29.903	29.887	29.864	29.879	29.941
12	29.949	29.961	29.987	30.026	30.031	30.026	30.046	30.071
13	30.098	30.115	30.151	30.162	30.143	30.095	30.085	30.089
14	30.076	30.067	30.059	30.077	30.063	30.019	29.999	29.992
15	29.972	29.940	29.943	29.947	29.911	29.862	29.846	29.879
16	29.870	29.857	29.875	29.860	29.835	29.806	29.811	29.835
17	29.854	29.868	29.902	29.922	29.917	29.898	29.902	29.967
18	30.020	30.037	30.058	30.073	30.061	30.025	30.004	30.027
19	30.035	30.036	30.052	30.046	30.022	29.993	29.978	30.004
20	29.999	30.011	30.033	30.057	30.052	30.042	30.027	30.046
21	30.089	30.089	30.124	30.149	30.168	30.146	30.147	30.222
22	30.243	30.248	30.238	30.130	30.184	30.104	30.036	30.030
23	30.016	29.996	30.005	29.995	29.970	29.910	29.879	29.903
24	29.918	29.939	29.973	30.009	29.981	29.951	29.939	29.956
25	29.952	29.963	29.993	29.981	29.947	29.905	29.891	29.901
26	29.907	29.898	29.918	29.907	29.876	29.800	29.789	29.811
27	29.773	29.765	29.788	29.802	29.795	29.754	29.971	29.997
28	30.042	30.103	30.147	30.175	30.173	30.142	30.104	30.130
29	30.146	30.150	30.173	30.178	30.144	30.095	30.068	30.080
30	30.050	30.036	30.023	29.981	29.949	29.918	29.881	29.877
Hourly means.	29.947	29.951	29.971	29.979	29.972	29.928	29.921	29.945

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
July 1	29.857	29.843	29.853	29.870	29.851	29.820	29.795	29.806
2	29.810	29.762	29.770	29.758	29.723	29.686	29.683	29.735
3	29.747	29.758	29.795	29.803	29.802	29.768	29.727	29.825
4	29.835	29.845	29.883	29.940	29.934	29.900	29.873	29.907
5	29.925	29.946	30.004	30.019	30.012	29.987	29.973	29.995
6	29.990	29.981	29.986	29.965	29.931	29.870	29.827	29.837
7	29.834	29.826	29.825	29.820	29.777	29.727	29.703	29.735
8	29.716	29.745	29.801	29.848	29.873	29.878	29.897	29.986
9	30.025	30.054	30.114	30.136	30.125	30.098	30.072	30.114
10	30.099	30.082	30.084	30.044	29.996	29.905	29.862	29.862
11	29.846	29.820	29.824	29.818	29.795	29.754	29.747	29.759
12	29.755	29.783	29.800	29.834	29.834	29.814	29.817	29.889
13	29.885	29.886	29.963	29.996	30.000	29.975	29.982	30.018
14	30.021	30.020	30.044	30.076	30.051	30.016	29.994	30.019
15	30.010	29.998	30.022	30.030	29.998	29.953	29.931	29.961
16	29.965	29.946	29.983	29.999	29.950	29.932	29.915	29.993
17	29.964	29.969	30.033	30.037	30.032	30.023	30.038	30.087
18	30.110	30.138	30.193	30.213	30.202	30.188	30.196	30.219
19	30.205	30.180	30.216	30.202	30.177	30.117	30.086	30.081
20	30.052	30.014	29.987	29.973	29.907	29.815	29.805	29.816
21	29.787	29.770	29.845	29.859	29.855	29.853	29.846	29.901
22	29.939	29.966	28.987	30.030	30.023	29.996	30.001	30.045
23	30.068	30.060	30.109	30.136	30.105	30.067	30.070	30.084
24	30.093	30.093	30.087	30.075	30.035	29.993	29.973	29.953
25	29.886	29.838	29.642	29.597	29.686	29.740	29.829	29.889
26	29.899	29.941	29.979	30.034	30.038	30.024	30.030	30.073
27	30.080	30.182	30.125	30.138	30.128	30.078	30.075	30.092
28	30.074	30.070	30.090	30.089	30.052	29.967	29.940	29.945
29	29.930	29.887	29.881	29.862	29.804	29.746	29.724	29.862
30	29.745	29.744	29.770	29.777	29.759	29.725	29.715	29.745
31	29.762	29.764	29.823	29.844	29.844	29.789	29.779	29.839
Hourly means	29.933	29.933	29.952	29.962	29.945	29.909	29.900	29.938

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
August 1	29.849	29.855	29.871	29.882	29.848	29.791	29.762	29.801
2	29.785	29.759	29.745	29.745	29.708	29.637	29.622	29.644
3	29.621	29.604	29.611	29.618	29.598	29.567	29.590	29.606
4	29.608	29.617	29.674	29.678	29.666	29.660	29.672	29.732
5	29.755	29.754	29.798	29.862	29.858	29.827	29.843	29.901
6	29.917	29.918	30.007	30.007	30.024	29.999	29.993	30.016
7	30.019	30.012	30.022	30.056	30.047	30.002	29.975	29.997
8	30.016	30.019	30.054	30.061	30.037	29.985	29.955	29.965
9	29.970	29.936	29.957	29.963	29.909	29.847	29.823	29.852
10	29.841	29.834	29.843	29.857	29.825	29.772	29.766	29.794
11	29.802	29.817	29.831	29.857	29.821	29.778	29.781	29.846
12	29.839	29.847	29.898	29.898	29.878	29.841	29.831	29.858
13	29.859	29.865	29.880	29.882	29.846	29.801	29.775	29.831
14	29.834	29.852	29.852	29.874	29.864	29.833	29.856	29.899
15	29.892	29.887	29.910	29.942	29.917	29.882	29.897	29.941
16	29.946	29.913	29.937	29.971	29.957	29.898	29.884	29.909
17	29.890	29.856	29.858	29.862	29.814	29.773	29.797	29.830
18	29.832	29.825	29.858	29.912	29.924	29.912	29.918	29.944
19	29.957	29.975	29.994	30.034	30.036	30.010	30.002	30.019
20	30.010	29.993	29.991	30.001	30.014	29.991	29.989	29.993
21	29.991	29.972	29.983	29.997	29.973	29.925	29.915	29.938
22	29.922	29.904	29.913	29.909	29.869	29.815	29.841	29.894
23	29.928	29.934	29.969	29.982	29.978	29.952	29.938	29.964
24	29.953	29.956	29.971	29.983	29.957	29.908	29.885	29.896
25	29.863	29.845	29.860	29.853	29.810	29.771	29.755	29.766
26	29.783	29.788	29.806	29.836	29.812	29.761	29.680	29.668
27	29.600	29.574	29.560	29.584	29.559	29.558	29.578	29.644
28	29.648	29.647	29.674	29.724	29.728	29.694	29.708	29.754
29	29.769	29.752	29.791	29.825	29.790	29.775	29.795	29.840
30	29.860	29.897	29.896	29.937	29.922	29.907	29.906	29.955
31	29.973	29.979	30.017	30.011	30.020	30.000	30.000	30.014
Hourly means.	29.856	29.851	29.872	29.890	29.871	29.834	29.830	29.862

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
September 1	30.035	30.029	30.044	30.094	30.047	30.003	29.989	30.011
2	30.018	30.026	30.014	30.026	29.988	29.940	29.923	29.944
3	29.937	29.907	29.907	29.905	29.885	29.845	29.830	29.831
4	29.841	29.791	29.801	29.816	29.799	29.776	29.775	29.779
5	29.759	29.729	29.760	29.780	29.726	29.742	29.754	29.773
6	29.791	29.830	29.891	29.995	29.995	30.013	30.061	30.113
7	30.131	30.139	30.190	30.245	30.270	30.246	30.228	30.256
8	30.276	30.271	30.267	30.270	30.214	30.161	30.120	30.121
9	30.096	30.076	30.104	30.061	30.028	29.967	29.928	29.917
10	29.871	29.817	29.822	29.828	29.812	29.789	29.779	29.783
11	29.743	29.703	29.675	29.658	29.637	29.649	29.730	29.778
12	29.775	29.777	29.807	29.827	29.799	29.803	29.818	29.852
13	29.842	29.832	29.822	29.824	29.798	29.787	29.802	29.859
14	29.865	29.855	29.869	29.849	29.857	29.778	29.746	29.748
15	29.726	29.756	29.795	29.819	29.803	29.773	29.778	29.848
16	29.878	29.867	29.905	29.947	29.929	29.917	29.917	29.967
17	29.988	30.003	30.034	30.052	30.017	29.963	29.944	29.961
18	29.953	29.949	29.955	29.950	29.918	29.876	29.840	29.837
19	29.809	29.818	29.859	29.932	29.927	29.929	29.979	30.015
20	30.039	30.081	30.101	30.140	30.110	30.061	30.063	30.085
21	30.079	30.089	30.101	30.111	30.067	30.011	29.989	29.994
22	29.978	29.956	29.997	30.041	30.021	29.986	29.981	30.019
23	30.001	29.964	29.962	29.983	29.951	29.902	29.853	29.849
24	29.813	29.740	29.720	29.687	29.627	29.564	29.640	29.728
25	29.779	29.854	. . .	29.962	29.987	29.960	29.999	30.059
26	30.075	30.090	30.131	30.155	30.097	30.035	30.029	30.028
27	30.009	29.999	30.011	30.011	29.959	29.903	29.912	29.946
28	29.952	29.952	29.986	30.012	30.035	30.015	30.038	30.080
29	30.078	30.074	30.072	30.064	30.006	29.925	29.887	29.883
30	29.863	29.851	29.873	29.954	29.975	29.959	30.013	30.066
Hourly means.	29.933	29.927	29.947	29.967	29.943	29.909	29.912	29.937

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
October 1	30.105	30.103	30.098	30.125	30.091	30.068	30.037	29.999
2	29.977	29.948	29.955	29.997	30.006	30.001	30.041	30.043
3	30.105	30.129	30.154	30.172	30.150	30.129	30.132	30.134
4	30.131	30.121	30.131	30.158	30.126	30.073	30.041	30.043
5	30.046	30.036	30.017	30.026	30.003	29.961	29.964	29.965
6	29.934	29.904	29.884	29.881	29.832	29.757	29.727	29.696
7	29.682	29.700	29.720	29.735	29.683	29.602	29.542	29.493
8	29.493	29.535	29.567	29.604	29.600	29.614	29.657	29.683
9	29.683	29.717	29.781	29.823	29.858	29.884	29.941	29.989
10	30.003	29.997	30.001	29.997	29.883	29.814	29.827	29.887
11	29.912	29.984	29.995	30.048	30.020	29.985	29.997	30.008
12	29.989	29.974	29.935	29.899	29.785	29.723	29.733	29.740
13	29.742	29.754	29.776	29.809	29.782	29.760	29.791	29.829
14	29.816	29.806	29.813	29.803	29.741	29.692	29.710	29.744
15	29.721	29.712	29.707	29.705	29.671	29.614	29.632	29.635
16	29.615	29.635	29.681	29.710	29.733	29.746	29.813	30.007
17	29.944	29.963	30.006	30.024	29.990	29.946	29.955	29.973
18	29.953	29.897	29.857	29.874	29.781	29.710	29.700	29.758
19	29.787	29.787	29.787	29.802	29.766	29.736	29.753	29.833
20	29.860	29.887	29.919	29.955	29.931	29.915	29.959	30.003
21	30.023	30.038	30.062	30.087	30.037	29.989	29.947	29.924
22	29.873	29.839	29.845	29.846	29.893	29.751	29.755	29.771
23	29.772	29.749	29.752	29.765	29.704	29.637	29.664	29.679
24	29.673	29.650	29.661	29.708	29.702	29.708	29.782	29.821
25	29.854	29.889	29.941	29.988	29.960	29.948	29.969	30.011
26	30.015	30.019	30.044	30.077	30.046	30.018	30.018	30.005
27	30.987	29.951	29.926	29.911	29.830	29.763	29.715	29.600
28	29.496	29.302	29.332	29.425	29.459	29.494	29.571	29.632
29	29.671	29.740	29.769	29.825	29.796	29.796	29.841	29.899
30	29.915	29.901	29.928	29.986	29.987	29.997	30.018	30.070
31	30.069	30.068	30.064	30.093	30.046	30.059	30.087	30.106
Hourly means	29.898	29.862	29.874	29.899	29.867	29.835	29.849	29.870

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
November 1	30.136	30.153	30.200	30.273	30.259	30.233	30.258	30.266
2	30.270	30.280	30.238	30.248	30.189	30.146	30.148	30.111
3	30.055	30.047	30.005	30.010	29.961	29.885	29.853	29.732
4	29.578	29.390	29.266	29.191	29.181	29.187	29.290	29.340
5	29.398	29.455	29.525	29.656	29.767	29.844	29.957	30.018
6	30.085	30.133	30.164	30.196	30.146	30.101	30.100	30.104
7	30.078	30.067	30.105	30.129	30.126	30.140	30.176	30.196
8	30.176	30.168	30.163	30.182	30.108	30.083	30.092	30.071
9	30.020	29.982	29.948	29.940	29.864	29.786	29.762	29.708
10	29.631	29.561	29.524	29.569	29.568	29.577	29.642	29.674
11	29.696	29.700	29.721	29.789	29.766	29.725	29.741	29.758
12	29.758	29.697	29.674	29.642	29.552	29.546	29.650	29.754
13	29.778	29.806	29.839	29.899	29.881	29.911	29.975	30.034
14	30.055	30.098	30.129	30.187	30.188	30.178	30.220	30.223
15	30.226	30.195	30.148	30.099	29.987	29.956	30.029	30.136
16	30.196	30.273	30.329	30.387	30.396	30.370	30.377	30.401
17	30.393	30.357	30.360	30.384	30.307	30.248	30.230	30.188
18	30.147	30.074	30.049	30.065	30.048	30.058	30.092	30.093
19	30.090	30.098	30.147	30.204	30.135	30.101	30.090	30.080
20	30.008	29.971	29.931	29.899	29.840	29.770	29.746	29.719
21	29.720	29.694	29.688	29.700	29.638	29.579	29.500	29.389
22	29.434	29.541	29.621	29.694	29.697	29.723	29.776	29.844
23	29.909	29.977	30.058	30.178	30.202	30.266	30.331	30.397
24	30.438	30.472	30.493	30.524	30.483	30.440	30.485	30.498
25	30.492	30.495	30.510	30.552	30.495	30.446	30.452	30.448
26	30.404	30.374	30.337	30.331	30.257	30.185	30.129	30.101
27	30.038	30.010	30.058	30.038	29.998	29.980	30.002	30.018
28	30.035	30.041	30.052	30.056	29.993	29.922	29.882	29.873
29	29.829	29.819	29.813	29.823	29.781	29.733	29.740	29.759
30	29.751	29.763	29.778	29.811	29.813	29.843	29.956	30.038
Hourly means.	29.994	29.989	29.996	30.022	29.987	29.965	29.989	29.999

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
December 1	30.065	30.103	30.132	30.174	30.156	30.137	30.131	30.133
2	30.113	30.109	30.106	30.119	30.062	30.009	29.988	29.933
3	29.871	29.832	29.762	29.740	29.640	29.579	29.624	29.691
4	29.701	29.744	29.789	29.845	29.833	29.823	29.865	29.918
5	29.950	29.987	29.991	30.042	29.983	29.916	29.905	29.911
6	29.903	29.905	29.907	29.893	29.849	29.795	29.826	29.827
7	29.832	29.789	29.767	29.729	29.624	29.539	29.516	29.503
8	29.631	29.791	29.911	30.028	30.035	30.048	30.188	30.320
9	30.448	30.543	30.589	30.648	30.599	30.515	30.478	30.390
10	30.213	30.101	29.991	29.971	29.964	29.954	30.002	29.944
11	29.876	29.838	29.764	29.712	29.590	29.554	29.580	29.649
12	29.809	29.881	29.932	30.006	30.063	30.128	30.237	30.317
13	30.330	30.331	30.351	30.400	30.291	30.219	30.158	30.038
14	29.949	29.840	29.799	29.783	29.777	29.821	29.910	30.002
15	30.109	30.182	30.242	30.306	30.309	30.223	30.173	30.120
16	30.055	30.053	30.080	30.136	30.108	30.074	30.055	30.047
17	29.992	29.981	29.988	30.062	30.039	30.063	30.108	30.152
18	30.182	30.248	30.297	30.339	30.304	30.265	30.240	30.182
19	30.071	29.971	29.823	29.681	29.520	29.425	29.470	29.550
20	29.682	29.796	29.896	29.984	29.986	29.986	30.013	29.979
21	29.923	29.829	29.691	29.526	29.199	29.142	29.199	29.276
22	29.344	29.439	29.534	29.676	29.738	29.960	30.024	30.106
23	30.170	30.218	30.259	30.325	- - -	30.225	30.196	30.112
24	30.037	29.984	30.006	30.077	30.087	30.113	30.174	30.201
25	30.185	30.200	30.206	30.228	30.152	30.085	30.051	30.040
26	29.961	29.889	29.830	29.794	29.710	29.681	29.678	29.690
27	29.655	29.648	29.638	29.663	29.602	29.579	29.596	29.591
28	29.547	29.478	29.472	29.487	29.472	29.491	29.489	29.478
29	29.438	29.439	29.462	29.580	29.571	29.580	29.638	29.654
30	29.656	29.667	29.682	29.760	29.716	29.732	29.769	29.781
31	29.760	29.721	29.699	29.745	29.756	29.857	29.899	29.947
Hourly means.	29.915	29.921	29.922	29.950	29.891	29.888	29.909	29.919

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
January	1	44.0	46.0	48.0	41.5	35.0	28.0	19.5	13.5
	2	10.5	9.5	8.0	8.9	19.0	21.3	17.2	14.5
	3	14.0	15.0	16.3	20.4	31.4	36.0	29.0	28.0
	4	30.4	30.0	29.2	31.0	30.0	29.0	27.5	26.0
	5	24.6	25.0	25.5	28.5	33.5	37.2	27.8	23.0
	6	20.0	19.5	18.5	20.5	24.2	25.5	23.0	20.5
	7	16.5	13.5	8.0	11.5	21.0	22.0	20.0	18.0
	8	16.2	15.5	16.0	17.0	23.2	25.5	23.0	21.0
	9	18.5	17.0	16.0	14.5	19.5	24.6	18.0	15.0
	10	13.4	14.0	11.0	14.0	29.4	35.0	27.8	25.0
	11	18.0	12.0	10.8	16.4	33.0	35.5	30.5	22.4
	12	14.8	12.4	10.0	15.8	37.7	- -	28.7	34.5
	13	23.5	21.0	19.5	22.4	32.7	35.5	34.0	31.0
	14	28.0	22.0	21.4	20.6	38.0	41.5	36.0	33.4
	15	34.1	34.0	34.5	34.5	37.0	43.0	40.8	39.0
	16	34.6	31.0	29.2	29.5	36.0	40.0	32.1	28.2
	17	25.5	25.0	27.0	31.0	37.0	41.4	38.0	36.0
	18	35.0	35.5	36.0	37.2	40.0	39.5	38.4	37.0
	19	38.0	40.0	46.0	42.2	44.0	41.0	35.0	30.0
	20	29.5	33.0	31.0	32.6	36.5	43.0	37.5	35.0
	21	34.5	33.0	34.0	34.7	41.0	37.4	33.5	33.5
	22	33.5	34.0	33.5	34.5	43.6	47.5	41.2	33.4
	23	31.5	30.0	28.0	33.0	48.5	50.0	44.5	42.5
	24	39.5	40.4	38.5	45.0	56.0	60.4	58.8	52.5
	25	49.0	46.0	43.0	46.0	65.5	66.7	56.8	43.0
	26	39.0	39.5	43.2	50.5	58.5	61.0	51.8	40.3
	27	36.2	33.0	32.0	39.5	55.1	64.8	57.0	52.0
	28	44.6	36.8	34.5	40.8	65.6	74.0	60.4	50.0
	29	41.0	36.5	34.8	40.0	63.4	63.0	56.0	47.0
	30	44.5	44.0	40.4	40.8	41.0	41.0	39.9	38.0
	31	38.0	38.0	38.0	38.5	43.0	44.0	41.0	40.6
Hourly means.		29.69	28.45	27.80	30.11	39.33	41.81	36.28	32.38

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
February	1	39.0	38.6	39.2	41.5	43.4	46.0	44.8	46.4
	2	41.0	40.0	38.0	37.8	43.5	48.0	43.8	41.0
	3	38.8	36.5	37.0	34.0	34.5	37.8	33.4	30.4
	4	29.0	27.0	25.5	30.2	39.0	46.0	41.0	39.3
	5	37.5	35.0	33.0	39.5	52.5	55.5	47.0	43.0
	6	39.2	37.5	36.0	37.5	42.0	47.0	43.0	40.5
	7	41.5	40.0	40.0	40.0	41.3	45.4	41.5	38.2
	8	35.5	33.0	32.5	39.0	44.5	46.0	39.0	34.0
	9	33.0	30.0	28.0	33.5	36.5	41.5	34.8	29.0
	10	26.0	23.0	21.5	26.5	33.0	- -	27.0	23.5
	11	20.2	18.2	17.0	24.0	34.0	38.0	34.5	31.2
	12	31.5	31.0	32.0	39.0	47.8	51.0	45.5	39.0
	13	33.0	28.0	28.3	37.6	50.8	54.5	44.5	38.2
	14	37.5	37.0	36.8	44.5	57.0	50.5	43.5	39.0
	15	33.0	30.0	28.0	31.2	36.0	35.5	32.2	32.1
	16	32.0	31.5	31.0	32.0	40.0	33.5	23.0	16.0
	17	11.0	8.0	7.0	9.0	10.0	12.5	7.5	5.5
	18	4.3	2.5	3.0	9.0	17.3	19.0	16.4	12.8
	19	10.5	9.0	6.0	9.2	18.5	22.0	19.0	15.2
	20	13.8	12.5	12.0	22.0	36.0	39.7	34.5	31.5
	21	30.0	28.0	23.7	32.6	41.0	48.5	41.8	38.0
	22	36.0	34.0	30.0	33.5	42.1	49.0	45.3	41.0
	23	39.6	37.0	35.4	42.4	62.5	67.0	54.5	50.0
	24	47.4	48.0	48.5	52.6	56.0	52.6	47.4	40.0
	25	34.2	32.5	31.7	35.5	46.6	51.7	49.0	51.8
	26	43.2	37.5	36.0	41.4	42.5	38.5	32.5	31.5
	27	30.0	28.1	27.3	36.0	48.0	50.6	45.0	41.0
	28	41.2	42.0	43.5	50.0	57.5	64.5	57.5	56.0
	29	58.5	58.0	52.4	47.0	46.5	46.0	42.5	39.7
Hourly means.		32.77	30.81	29.67	34.07	41.39	44.21	38.32	34.99

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
March	1	34.0	32.0	30.5	32.0	33.2	33.0	32.5	32.2
	2	32.0	30.0	25.5	29.6	37.4	41.6	39.5	34.5
	3	33.0	28.5	26.5	33.5	44.5	47.0	40.5	35.0
	4	32.5	32.5	31.8	40.6	56.0	57.2	50.5	47.8
	5	45.5	46.0	46.5	49.5	50.6	49.0	45.5	39.0
	6	36.1	36.0	37.4	39.6	48.0	42.2	41.7	38.4
	7	35.5	34.5	33.5	38.0	49.0	55.0	51.0	39.0
	8	34.5	33.0	37.2	39.5	39.0	41.5	41.8	38.5
	9	34.7	29.5	28.5	37.4	53.7	55.4	51.0	43.5
	10	40.6	39.5	40.0	42.4	44.5	44.4	44.0	45.0
	11	44.5	44.0	43.5	42.0	43.5	45.0	45.7	44.5
	12	41.0	40.0	39.5	50.4	58.5	58.5	53.5	48.0
	13	43.5	41.0	39.0	45.5	54.7	60.5	54.7	48.5
	14	46.0	42.0	40.5	41.0	46.7	46.2	42.2	39.5
	15	38.8	37.0	34.5	40.5	45.5	39.0	36.0	31.6
	16	27.5	26.0	24.0	29.0	32.0	32.5	31.0	30.5
	17	30.0	29.5	29.0	34.1	40.0	42.0	39.0	34.0
	18	34.0	34.0	32.0	43.2	51.6	55.5	53.5	51.3
	19	41.2	39.0	35.6	37.7	47.0	49.8	44.0	40.6
	20	37.0	30.2	26.5	39.0	45.4	50.0	41.5	32.5
	21	27.0	23.0	21.5	26.1	31.0	35.0	31.6	27.5
	22	25.2	24.0	23.0	26.5	29.2	29.0	26.5	24.0
	23	23.0	22.0	21.5	26.8	31.5	37.0	38.5	30.5
	24	25.6	29.0	28.7	34.6	43.0	51.5	49.0	39.2
	25	34.5	32.0	32.5	37.0	42.5	43.0	38.0	39.0
	26	43.2	40.0	38.0	41.2	43.0	43.5	43.5	41.0
	27	40.5	39.0	38.0	48.0	54.0	58.0	52.8	45.0
	28	38.0	35.0	33.4	44.2	53.5	56.2	54.0	46.0
	29	43.0	41.0	38.0	44.0	46.0	46.0	45.0	42.0
	30	39.0	38.5	35.0	34.2	38.0	39.0	39.5	38.0
	31	38.0	37.0	36.0	44.0	46.2	47.3	45.0	42.0
Hourly means.		36.09	34.35	33.13	38.42	44.47	46.15	43.31	38.97

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
April	1	39.5	39.0	38.5	47.2	49.2	46.0	42.7	41.5
	2	40.5	38.0	36.0	34.0	35.5	37.0	37.0	38.5
	3	39.5	40.6	41.5	45.2	50.0	54.5	51.7	49.0
	4	45.0	40.0	34.5	41.0	42.3	41.0	39.0	37.5
	5	37.5	37.8	37.0	36.0	36.9	39.3	40.0	40.5
	6	40.4	39.0	39.5	46.2	53.5	59.0	56.0	49.5
	7	45.3	39.5	36.6	50.5	58.8	60.1	59.4	48.0
	8	42.0	36.5	36.5	52.5	62.7	65.0	59.8	52.0
	9	49.4	49.0	48.2	49.0	48.8	47.0	46.0	46.5
	10	49.0	49.0	49.8	50.1	55.2	61.2	58.4	51.8
	11	49.0	47.0	45.6	48.5	56.0	56.0	54.5	50.0
	12	43.0	40.0	38.5	51.5	62.0	61.0	54.5	50.0
	13	49.5	48.0	47.5	54.0	56.7	56.5	54.7	46.4
	14	44.2	44.0	42.5	52.6	55.0	54.0	52.0	49.2
	15	45.0	41.0	38.7	51.5	56.0	56.0	54.0	49.5
	16	46.2	44.0	44.2	44.0	44.4	45.0	42.6	42.4
	17	40.2	40.4	41.0	46.5	48.5	52.0	51.0	44.1
	18	41.5	38.0	38.5	51.5	58.0	61.0	57.5	46.8
	19	43.0	40.0	39.0	50.0	57.6	56.0	53.5	45.0
	20	40.0	38.0	40.0	47.6	48.2	50.5	46.2	44.2
	21	43.0	41.0	42.0	49.0	45.6	55.4	54.8	46.0
	22	42.2	39.0	37.5	54.0	65.0	65.0	57.0	52.1
	23	50.0	50.0	50.8	65.0	73.0	74.6	71.5	66.5
	24	63.0	59.0	57.5	68.3	71.5	70.5	67.0	65.0
	25	62.5	62.0	62.0	66.0	68.5	72.4	70.0	61.0
	26	57.0	55.0	52.0	62.0	62.0	62.7	61.6	54.0
	27	51.5	50.8	54.0	63.6	68.3	75.8	72.0	60.5
	28	50.5	44.0	41.0	47.0	55.0	60.5	55.0	44.5
	29	39.0	38.2	36.0	48.5	58.5	62.0	61.0	53.0
	30	48.5	46.0	43.2	55.0	66.0	61.4	57.8	55.0
Hourly means.		45.90	43.79	42.99	50.93	55.62	57.28	54.61	49.33

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
May	1	55.0	55.0	55.0	54.0	59.0	61.8	61.5	51.8
	2	47.0	45.0	43.5	56.0	62.0	63.0	59.5	42.8
	3	43.0	41.4	40.6	48.0	55.5	58.4	54.0	48.2
	4	48.0	43.5	44.5	54.7	62.5	66.5	64.2	53.0
	5	47.4	46.0	43.8	62.2	71.0	72.6	70.0	60.5
	6	55.0	52.0	50.5	64.7	78.0	83.5	67.5	67.6
	7	63.5	59.0	59.0	72.0	83.2	86.2	79.0	71.5
	8	67.5	61.0	. .	78.0	84.0	88.5	80.0	72.5
	9	68.0	62.0	61.6	73.0	77.6	83.0	76.0	71.0
	10	68.0	64.0	63.0	74.5	81.0	86.8	80.0	75.6
	11	72.2	67.0	65.0	72.3	79.2	80.6	61.5	60.8
	12	57.0	56.0	58.0	61.5	63.7	70.0	65.8	62.0
	13	62.6	64.0	64.0	63.0	68.5	67.6	65.5	63.2
	14	61.8	61.5	61.0	69.0	72.0	74.0	69.6	65.8
	15	64.0	62.0	63.2	69.0	70.5	68.5	63.0	59.5
	16	57.0	56.0	60.5	69.0	69.8	71.5	69.5	63.7
	17	60.0	60.0	61.0	63.0	66.4	72.0	70.0	63.0
	18	59.0	58.2	59.0	65.0	76.0	65.0	65.5	62.5
	19	61.5	61.0	61.0	64.5	73.0	74.2	69.5	63.3
	20	59.3	56.4	55.8	62.5	76.0	77.8	72.6	64.2
	21	60.5	58.2	58.0	71.2	80.8	83.5	76.3	72.5
	22	68.4	67.0	66.8	76.2	80.0	84.5	74.5	69.0
	23	62.0	56.8	59.3	69.0	73.0	76.5	74.0	68.5
	24	67.0	67.0	69.0	73.6	81.5	85.2	80.5	67.4
	25	66.5	64.2	64.3	74.0	79.5	81.0	75.0	77.4
	26	64.6	63.5	64.0	65.5	65.0	68.0	67.0	64.5
	27	62.5	62.0	62.0	68.6	74.2	78.4	74.5	65.0
	28	64.0	61.5	61.6	70.5	77.0	75.5	68.5	63.5
	29	59.0	53.5	50.0	61.3	65.0	70.0	69.0	60.0
	30	59.2	56.0	58.0	70.0	78.2	82.5	77.6	68.0
	31	64.0	61.0	60.8	75.5	86.4	86.5	82.1	72.0
Hourly means.		60.46	58.12	57.79	66.82	73.21	75.58	70.43	64.20

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
June	1	69.0	64.0	63.0	77.5	86.4	87.0	81.2	74.0
	2	70.0	67.0	65.0	68.8	68.0	66.2	63.0	62.0
	3	60.5	58.0	56.5	69.7	72.0	72.8	71.2	64.0
	4	61.0	58.0	57.5	67.6	75.5	74.4	68.7	62.8
	5	62.3	61.0	61.5	66.0	71.5	74.6	71.5	68.5
	6	64.5	62.0	64.2	75.5	83.6	88.5	67.5	67.0
	7	68.0	63.8	60.0	62.2	70.7	75.0	69.5	61.0
	8	57.5	55.5	58.0	67.6	70.5	75.6	70.5	68.5
	9	68.0	66.5	68.0	74.3	83.7	86.0	82.5	70.0
	10	69.0	65.0	63.0	62.0	67.0	71.0	69.0	60.5
	11	60.0	58.2	55.5	61.5	69.0	70.6	65.0	59.5
	12	56.5	54.5	53.0	64.5	68.0	67.5	67.0	58.5
	13	53.0	48.6	50.4	65.0	70.0	70.0	66.8	58.6
	14	53.5	51.0	50.5	59.0	64.2	69.2	70.0	59.5
	15	53.0	51.8	50.6	67.0	75.3	81.2	79.0	67.0
	16	62.0	59.0	61.0	71.5	81.0	86.0	84.6	71.0
	17	67.0	65.0	64.4	79.5	88.7	90.5	84.6	73.0
	18	65.4	60.5	59.0	68.0	76.6	79.5	75.5	65.4
	19	62.5	59.0	61.2	69.5	73.0	78.0	72.3	68.8
	20	63.0	60.5	62.0	69.0	80.0	82.5	75.0	67.0
	21	60.5	57.0	57.5	76.0	86.0	88.4	80.5	66.0
	22	62.5	58.5	59.5	67.2	75.5	79.5	79.0	70.1
	23	67.0	65.0	67.0	80.7	89.5	92.6	90.5	79.4
	24	74.0	72.0	73.0	83.0	90.0	94.2	87.5	80.2
	25	78.0	74.5	75.0	88.0	96.5	98.6	94.3	85.5
	26	81.0	75.0	75.2	90.0	97.2	96.2	87.2	79.8
	27	74.8	74.0	73.5	85.5	90.5	87.0	79.0	69.2
	28	61.5	57.5	57.5	70.2	76.5	79.0	76.2	66.0
	29	62.0	59.0	58.5	71.8	81.5	79.0	75.0	69.0
	30	65.0	61.0	64.0	72.0	78.5	75.6	72.5	69.5
Hourly means.		64.40	61.41	61.50	71.67	78.55	80.54	76.54	68.04

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
July	1	69.0	68.8	70.0	76.5	86.5	90.5	88.5	78.5
	2	76.0	74.0	75.0	86.5	95.0	78.8	84.4	79.0
	3	73.5	72.5	71.0	79.0	82.3	87.5	85.0	79.0
	4	74.0	71.5	68.0	74.0	79.0	79.4	81.0	68.0
	5	64.0	63.0	62.0	74.0	84.0	87.6	82.0	71.5
	6	67.0	62.0	65.0	77.0	86.5	92.0	88.4	77.0
	7	75.0	74.6	70.0	84.0	89.7	91.3	93.0	78.2
	8	76.5	75.0	76.5	83.3	88.2	91.0	87.5	78.5
	9	73.0	73.0	71.0	77.0	87.5	89.5	84.5	75.5
	10	71.0	70.5	70.5	78.0	89.0	91.5	86.0	79.0
	11	78.0	77.0	75.0	84.0	84.6	85.5	84.0	77.8
	12	74.2	72.0	71.5	85.3	91.5	78.0	83.2	78.0
	13	75.0	74.5	71.5	75.0	86.0	87.5	84.0	74.5
	14	72.0	68.5	66.5	76.0	87.6	87.5	83.0	73.5
	15	67.0	66.0	65.0	75.5	83.0	86.0	82.0	71.0
	16	64.0	61.0	60.4	73.0	86.0	89.5	84.5	72.0
	17	64.0	62.0	62.0	78.6	88.6	95.0	87.0	74.5
	18	70.0	65.0	61.5	74.0	89.4	90.0	79.5	73.0
	19	66.8	62.2	66.0	77.0	89.0	87.5	82.5	76.5
	20	73.2	72.5	72.8	79.0	89.0	95.0	80.0	74.8
	21	73.5	73.0	70.0	72.5	83.2	77.3	78.0	68.0
	22	63.0	57.5	57.5	68.4	71.8	76.6	71.5	62.2
	23	58.5	55.0	52.6	65.0	80.5	85.5	79.0	67.3
	24	62.0	56.5	55.0	69.0	82.0	80.2	73.5	70.0
	25	65.0	62.0	59.0	60.5	64.5	73.5	72.5	67.0
	26	63.8	64.5	62.0	75.5	84.0	87.5	82.0	74.0
	27	70.0	67.2	66.0	76.2	85.5	87.6	80.5	75.5
	28	72.0	70.0	71.0	80.0	89.0	93.5	89.0	77.5
	29	73.0	69.5	68.0	81.5	93.0	97.5	93.0	80.2
	30	76.0	74.0	75.0	84.2	93.0	96.8	93.6	82.0
	31	80.0	74.0	73.5	87.0	95.0	99.5	91.0	83.5
Hourly means.		70.32	68.03	67.12	76.98	85.93	87.62	83.66	74.74

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
August	1	78.0	73.0	74.5	82.5	92.5	100.5	91.0	82.0
	2	78.0	76.0	75.0	80.6	87.0	92.8	79.5	74.0
	3	72.6	71.4	72.4	77.5	85.6	85.2	81.2	73.4
	4	71.4	71.0	71.0	75.5	83.6	87.5	85.0	74.3
	5	70.0	67.5	66.0	78.2	86.5	92.3	86.0	76.0
	6	74.0	73.0	72.0	77.0	82.3	78.5	81.5	76.0
	7	74.0	73.0	73.5	79.0	84.2	87.2	83.0	79.5
	8	75.5	74.0	71.8	79.5	87.4	90.3	84.5	77.0
	9	72.5	69.0	69.5	75.5	89.5	93.5	86.5	78.0
	10	76.0	73.0	72.0	83.5	94.4	97.2	90.5	81.5
	11	78.0	74.5	73.2	84.5	95.5	95.5	88.3	79.8
	12	77.3	76.0	72.0	85.0	93.5	96.5	91.6	82.4
	13	78.0	76.0	74.2	83.5	93.2	98.2	90.0	76.8
	14	75.0	75.0	75.8	84.0	92.5	88.0	83.0	78.5
	15	76.0	74.0	73.8	80.4	86.5	88.0	78.0	76.0
	16	76.5	75.8	75.8	81.5	87.3	84.5	82.0	79.0
	17	77.8	77.0	77.6	83.0	92.0	84.5	79.0	78.0
	18	75.3	75.0	74.5	72.5	76.4	78.5	75.0	74.0
	19	74.0	73.5	70.6	76.0	75.7	77.5	74.5	72.5
	20	71.0	70.0	70.0	73.0	72.5	71.0	70.7	69.0
	21	69.5	69.0	67.0	70.4	76.7	81.7	77.8	72.0
	22	71.0	70.0	72.5	75.7	81.0	81.5	72.3	71.0
	23	71.0	69.7	68.4	73.7	81.0	85.0	77.7	72.0
	24	70.8	70.0	68.0	75.3	84.3	87.8	78.5	74.5
	25	73.5	70.5	69.5	77.0	88.5	84.5	76.0	74.8
	26	74.0	69.0	67.8	76.5	83.5	85.7	79.0	71.0
	27	75.0	73.0	69.0	73.2	82.0	82.5	78.8	72.1
	28	67.0	65.0	65.0	72.7	76.0	76.0	74.5	67.5
	29	66.0	63.0	62.0	71.0	80.0	77.6	75.2	66.2
	30	62.5	60.0	58.0	67.5	75.5	78.8	73.0	66.5
	31	58.0	56.8	56.5	65.0	71.5	75.5	68.5	61.5
Hourly means.		72.88	71.09	70.29	77.10	84.13	85.93	80.39	74.41

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
September	1	58.0	56.0	54.0	66.5	76.3	79.7	71.0	66.0
	2	60.0	57.5	55.0	72.7	77.0	80.2	70.7	64.0
	3	62.0	62.0	64.0	66.5	69.5	70.4	69.0	68.5
	4	67.0	66.5	66.5	68.7	71.0	74.5	73.5	69.2
	5	70.5	70.0	70.5	70.0	77.5	74.4	66.6	64.0
	6	62.5	61.0	59.5	58.7	59.5	60.0	58.5	58.0
	7	58.0	56.0	53.2	64.5	73.5	73.5	66.5	58.0
	8	55.8	53.0	50.2	62.2	66.5	63.2	60.0	59.5
	9	59.0	59.0	57.8	61.8	72.0	76.5	70.8	64.3
	10	63.6	63.5	63.8	66.5	75.3	75.3	72.0	67.8
	11	66.0	64.5	65.0	67.0	77.0	74.5	61.0	60.5
	12	58.7	58.0	55.0	57.0	61.5	63.5	58.3	55.6
	13	54.0	53.5	52.5	60.7	67.5	71.5	66.0	60.5
	14	57.6	53.5	52.7	61.5	59.3	63.0	62.0	60.5
	15	60.5	59.0	58.5	70.6	76.3	80.0	71.5	67.5
	16	63.0	61.0	56.0	64.0	68.5	72.5	66.5	58.6
	17	54.6	52.5	51.0	60.7	75.2	79.0	67.5	61.0
	18	60.2	59.5	59.0	66.5	68.2	70.2	66.0	64.5
	19	64.0	62.5	61.0	62.8	69.5	71.7	63.0	56.0
	20	52.8	50.1	48.5	58.5	72.6	77.0	67.5	64.0
	21	59.5	57.0	55.5	60.5	75.5	79.0	71.0	67.5
	22	68.0	64.0	63.0	67.0	75.0	77.4	69.8	68.0
	23	66.5	66.0	65.5	68.4	72.0	73.5	69.2	68.0
	24	68.5	70.0	70.2	74.6	82.6	81.6	72.4	65.0
	25	64.5	55.0	- -	57.0	64.0	66.5	60.0	56.5
	26	52.0	50.0	48.5	60.2	74.0	77.5	66.4	60.5
	27	58.0	56.0	54.5	64.8	81.5	83.0	70.5	66.5
	28	62.5	62.8	63.5	71.5	72.5	76.4	73.5	69.0
	29	67.5	66.5	67.0	74.0	82.0	81.5	75.0	73.0
	30	71.4	70.5	69.0	68.5	68.0	73.0	64.7	58.5
Hourly means.		61.54	59.91	58.98	61.80	72.03	74.00	67.35	63.32

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
October	1	54.0	53.0	52.0	53.5	55.2	55.5	56.5	57.4
	2	58.5	58.0	59.5	61.6	66.0	71.4	66.2	64.0
	3	61.2	59.5	58.5	60.5	63.7	65.2	64.0	61.0
	4	61.6	60.8	62.0	64.2	68.0	69.6	68.5	68.0
	5	65.0	65.0	65.5	67.0	68.4	72.5	69.8	68.0
	6	67.8	67.8	68.0	71.6	80.3	75.4	71.0	68.0
	7	68.0	66.0	62.5	68.0	75.0	78.7	67.6	65.0
	8	64.0	59.0	54.2	54.8	57.0	53.8	47.5	43.0
	9	43.0	41.5	40.4	45.0	48.0	48.0	43.0	39.0
	10	36.0	33.4	32.8	45.2	60.8	66.0	55.0	51.5
	11	51.0	48.0	44.5	56.0	67.0	68.0	58.0	49.0
	12	46.0	44.5	44.0	50.5	63.5	55.5	54.0	49.0
	13	48.5	46.0	44.0	49.4	54.5	57.0	49.5	47.0
	14	43.0	42.0	40.0	51.0	60.2	64.4	54.5	51.9
	15	51.0	49.0	47.5	58.0	68.0	67.5	58.6	54.5
	16	54.2	50.2	49.0	53.5	65.3	64.5	57.2	50.2
	17	46.0	45.0	43.5	53.6	64.5	66.8	57.0	51.8
	18	46.5	42.5	40.0	46.5	68.4	71.0	58.0	56.0
	19	44.0	40.0	38.0	51.1	58.3	60.5	52.2	50.0
	20	46.5	43.5	41.0	47.2	54.0	57.2	49.2	43.5
	21	38.0	37.0	38.5	49.0	61.0	65.0	52.2	50.2
	22	49.0	45.0	43.0	45.2	49.0	49.5	44.8	44.0
	23	42.2	40.5	39.0	49.5	57.0	58.0	51.6	45.0
	24	43.0	42.0	40.2	47.0	61.6	58.5	54.3	51.4
	25	49.5	44.0	39.0	49.6	65.0	64.5	51.0	44.6
	26	41.0	39.0	36.3	45.2	62.0	60.0	52.0	49.0
	27	49.2	48.5	49.0	53.7	64.5	60.0	55.5	57.0
	28	58.0	56.0	55.0	56.2	58.5	59.0	53.0	51.0
	29	47.5	46.0	45.8	51.0	60.9	60.7	52.5	44.0
	30	41.0	38.0	35.2	44.5	58.0	58.6	50.7	43.7
	31	41.0	37.0	35.5	43.7	57.8	55.1	50.2	48.6
Hourly means.		50.17	47.99	46.56	53.00	61.98	62.50	55.65	52.14

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
November	1	48.5	42.5	39.0	46.0	51.2	54.0	47.0	39.0
	2	34.5	33.4	35.5	41.4	44.0	41.5	39.0	38.0
	3	39.4	38.8	38.5	38.5	41.5	42.2	41.5	43.8
	4	44.2	45.0	46.0	47.5	53.2	56.5	50.6	45.2
	5	41.5	43.0	42.0	44.5	44.0	44.6	38.3	34.0
	6	30.2	28.5	28.0	36.0	55.5	54.6	48.5	46.5
	7	48.4	49.6	50.0	52.5	54.6	55.5	55.0	56.5
	8	56.0	56.2	56.4	59.0	63.0	61.0	60.6	59.0
	9	61.8	61.0	60.5	62.8	67.5	69.8	66.1	67.5
	10	66.0	66.8	66.5	60.0	68.5	65.0	55.3	48.6
	11	47.9	45.0	42.5	48.0	54.2	57.0	48.5	45.5
	12	40.0	40.5	41.0	45.5	57.0	50.5	45.8	40.5
	13	38.5	37.4	34.5	39.0	42.5	39.4	37.2	35.8
	14	32.0	29.8	31.5	36.0	38.6	40.7	33.0	30.0
	15	28.0	27.0	28.2	36.0	43.0	47.5	45.0	40.8
	16	39.0	36.0	32.0	39.5	51.0	50.5	41.4	38.0
	17	38.2	38.2	39.6	43.0	48.4	48.5	47.8	47.0
	18	47.0	47.5	49.0	51.0	53.5	52.0	48.6	46.8
	19	46.0	45.0	43.5	40.6	47.5	48.5	41.2	37.2
	20	38.5	38.0	38.0	40.7	42.0	44.0	43.6	43.8
	21	44.1	44.0	43.2	44.0	45.4	45.5	45.0	44.3
	22	39.0	35.0	35.0	33.5	34.4	33.0	31.0	29.8
	23	26.0	24.0	22.5	26.0	31.8	32.6	28.0	24.0
	24	21.6	20.0	20.5	27.0	39.0	41.0	33.2	30.0
	25	26.0	25.0	23.5	28.6	44.5	49.0	40.5	36.2
	26	35.3	33.0	31.6	36.5	46.0	47.0	43.4	41.0
	27	40.2	36.8	34.5	39.2	54.0	52.0	45.0	43.5
	28	34.3	38.0	40.0	44.5	52.5	57.0	52.0	51.5
	29	50.1	50.0	49.5	55.4	66.8	71.0	59.7	54.2
	30	55.4	53.0	51.0	52.8	70.5	68.0	60.2	54.0
Hourly means.		41.25	40.27	39.78	43.17	50.19	50.65	45.73	43.07

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
December	1	46.0	43.5	44.0	46.0	57.2	57.5	50.0	45.5
	2	43.2	43.0	42.0	45.5	48.4	47.8	48.5	48.3
	3	48.0	47.8	49.0	50.3	57.0	59.8	58.0	56.8
	4	48.0	44.2	42.5	44.5	48.2	49.7	40.5	34.8
	5	31.5	31.0	28.4	36.8	45.0	45.5	43.7	39.5
	6	36.8	36.5	37.0	41.8	50.0	54.0	48.0	41.5
	7	38.0	38.5	40.0	43.5	51.5	55.0	54.5	55.7
	8	53.5	46.0	35.5	33.7	33.0	36.5	34.6	29.0
	9	23.2	23.5	18.0	20.6	26.2	25.5	24.3	24.5
	10	22.5	28.5	31.0	28.0	32.0	32.0	31.5	31.6
	11	31.5	31.0	32.0	32.5	33.5	35.0	33.5	26.0
	12	12.2	11.3	12.5	19.0	24.3	23.5	20.0	17.5
	13	17.0	18.0	18.8	21.3	28.3	29.6	30.0	30.7
	14	35.5	34.5	35.0	37.7	39.5	46.0	42.6	39.2
	15	35.5	30.4	27.5	28.3	29.2	29.5	30.0	31.2
	16	30.0	28.0	29.0	32.0	35.5	37.0	34.5	32.4
	17	32.4	33.0	33.5	35.5	36.6	39.2	38.4	35.5
	18	37.0	35.0	33.5	35.5	41.5	40.5	37.5	36.6
	19	36.8	36.4	36.5	40.6	44.5	46.8	49.1	45.0
	20	39.4	32.0	30.0	30.5	31.8	32.0	28.5	26.6
	21	28.0	30.0	29.0	31.2	33.2	32.0	32.5	33.0
	22	29.8	28.6	28.0	26.0	25.8	24.3	22.0	19.5
	23	17.0	15.2	14.5	19.0	- -	26.5	24.0	23.0
	24	25.0	26.0	27.0	29.0	36.0	38.5	33.5	28.0
	25	24.2	24.2	20.0	23.6	35.6	42.6	39.0	38.0
	26	39.2	38.0	36.2	36.5	40.0	40.5	38.0	36.5
	27	36.5	36.0	35.5	36.5	39.0	41.0	41.3	41.8
	28	42.0	43.0	42.0	42.7	48.3	50.6	48.0	43.0
	29	38.7	3600	33.0	32.2	35.5	33.5	30.5	28.2
	30	27.0	28.5	27.0	30.0	39.4	42.7	36.8	37.0
	31	36.8.	32.9	33.0	33.5	34.0	28.0	28.5	25.5
Hourly means.		33.62	32.59	31.64	33.65	38.67	39.42	37.15	34.24

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
January	1	43.5	45.0	47.5	37.5	31.0	20.0	17.0	12.0
	2	9.4	8.8	7.6	7.0	18.0	20.5	16.0	14.0
	3	13.0	14.0	15.5	18.0	27.0	32.5	26.0	26.0
	4	28.0	28.0	27.6	29.0	29.5	28.6	27.0	25.5
	5	24.3	24.6	25.0	28.4	32.0	32.5	25.0	21.4
	6	18.5	18.0	18.0	19.0	21.5	22.5	21.0	19.0
	7	16.0	12.0	7.5	10.5	19.0	20.0	18.5	17.5
	8	16.0	15.0	15.8	16.5	21.0	23.0	19.8	19.0
	9	17.0	16.5	15.5	13.0	18.0	22.0	17.0	14.5
	10	12.5	13.0	10.2	13.0	25.8	30.0	25.0	23.0
	11	17.0	11.5	10.0	15.2	29.8	32.0	28.4	21.0
	12	14.0	12.0	9.5	15.4	31.2	- -	26.0	23.5
	13	22.5	20.0	19.0	22.0	31.0	34.2	33.0	30.0
	14	27.5	21.0	21.0	20.0	32.0	37.0	34.0	32.5
	15	32.5	33.0	34.0	34.2	37.6	41.5	36.8	34.0
	16	32.0	29.0	27.6	27.0	31.0	32.5	30.5	27.0
	17	25.0	24.5	26.0	29.5	35.2	37.0	34.6	34.0
	18	33.6	34.8	35.5	37.0	39.6	39.0	38.2	37.0
	19	38.0	39.5	45.5	41.4	40.5	35.2	29.5	27.0
	20	27.0	28.5	29.0	31.4	36.0	35.6	32.4	34.0
	21	33.8	32.5	33.0	33.0	36.0	33.5	31.0	31.0
	22	31.5	31.7	32.0	33.0	40.0	42.4	38.4	32.0
	23	30.4	29.0	27.4	31.5	43.0	42.0	41.5	39.0
	24	37.4	39.0	36.8	42.0	48.4	51.0	49.5	50.5
	25	47.0	44.0	42.0	43.4	52.5	57.7	49.0	40.5
	26	37.0	38.2	41.4	48.0	57.0	49.0	47.2	37.5
	27	35.0	32.0	31.0	37.0	48.5	57.9	46.0	45.0
	28	40.4	35.5	34.0	38.4	53.5	59.0	52.5	46.0
	29	39.5	36.0	34.0	38.6	54.0	56.0	- -	44.6
	30	42.0	42.0	40.2	40.5	41.2	40.6	39.6	37.8
	31	37.8	37.0	37.0	38.2	41.6	41.6	40.5	40.0
Hourly means.		28.37	27.24	26.97	28.73	35.56	36.86	32.36	30.19

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
February	1	38.2	38.4	39.0	41.0	43.0	46.0	44.5	45.5
	2	43.8	40.0	38.0	37.6	42.5	44.0	41.5	40.0
	3	38.2	35.4	34.8	- -	32.0	32.0	30.5	29.0
	4	27.6	26.5	25.0	29.0	33.7	38.5	37.0	35.0
	5	35.0	34.0	31.0	38.0	45.4	47.5	42.0	40.0
	6	38.0	36.0	35.5	37.0	41.0	43.0	41.0	40.0
	7	40.2	39.0	38.5	38.0	38.5	40.0	39.0	36.5
	8	35.0	32.0	31.0	35.8	38.6	39.0	32.5	29.5
	9	28.0	28.5	26.2	29.0	32.5	33.5	32.0	26.7
	10	25.0	22.0	21.0	- -	31.8	- -	26.5	22.5
	11	19.0	17.0	16.0	21.0	29.5	34.5	33.0	30.0
	12	31.0	30.5	31.5	33.4	41.5	42.5	40.0	34.5
	13	31.5	27.0	28.0	34.5	40.5	42.0	38.0	34.0
	14	34.0	34.0	33.5	39.0	45.2	40.4	36.5	34.0
	15	30.4	28.2	27.0	29.0	32.6	33.0	32.4	34.0
	16	32.0	31.0	30.5	31.7	35.0	31.0	22.5	16.0
	17	11.0	- -	- -	9.0	- -	- -	- -	- -
	18	- -	- -	- -	- -	- -	- -	- -	- -
	19	- -	- -	- -	- -	- -	20.2	18.0	- -
	20	- -	- -	- -	20.8	32.0	36.0	29.5	28.5
	21	27.5	26.8	27.0	29.1	34.2	39.5	36.0	34.2
	22	33.2	31.5	29.5	32.0	36.0	42.8	40.5	38.2
	23	37.0	35.0	34.0	39.0	51.0	53.0	46.0	43.0
	24	41.5	42.0	42.4	43.5	44.4	42.4	39.6	36.0
	25	32.5	31.0	30.4	34.0	41.5	44.2	43.0	44.5
	26	41.0	36.5	34.5	33.0	34.0	32.5	27.5	28.0
	27	29.0	27.0	27.0	32.5	38.0	41.0	38.5	35.5
	28	36.0	37.0	37.5	42.5	48.0	53.0	49.5	48.8
	29	50.0	50.0	48.5	41.5	40.8	40.5	37.0	35.0
Hourly means.		33.16	31.27	31.67	34.15	39.57	41.33	37.04	34.69

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
March	1	32.5	31.0	30.0	31.5	32.5	32.6	32.0	32.0
	2	30.0	28.2	25.0	28.5	32.5	36.0	34.8	31.5
	3	30.5	27.0	25.0	29.8	37.4	39.0	36.5	32.5
	4	30.8	30.0	31.0	34.2	48.0	48.4	45.0	43.0
	5	42.5	43.0	44.0	48.0	50.4	47.0	41.8	36.0
	6	34.0	34.0	34.5	36.4	37.0	37.5	37.5	35.0
	7	33.0	31.5	30.2	33.5	40.0	44.0	42.2	36.0
	8	33.5	32.0	36.6	37.6	38.2	40.5	40.4	37.5
	9	34.5	29.0	28.0	32.0	46.4	46.2	44.6	39.5
	10	39.8	38.5	38.0	40.5	41.7	43.5	43.0	45.0
	11	44.0	43.5	43.0	41.5	42.7	44.7	45.4	44.0
	12	40.8	38.0	37.0	43.5	49.5	50.7	47.7	44.5
	13	42.0	40.0	38.5	44.0	50.5	49.3	45.7	42.0
	14	42.0	41.0	40.0	36.0	39.8	39.0	36.5	36.0
	15	35.5	35.0	34.0	38.5	41.0	34.5	30.4	27.0
	16	26.0	25.0	23.0	28.5	31.8	31.0	29.5	30.0
	17	29.5	28.0	27.5	32.0	37.2	36.0	33.8	31.0
	18	31.8	32.0	31.5	38.2	43.3	45.0	44.0	43.4
	19	42.0	36.0	33.0	32.0	39.4	42.0	38.0	36.0
	20	32.0	28.0	25.0	33.0	37.6	40.5	34.0	27.2
	21	25.2	22.0	21.0	24.0	30.0	34.0	31.0	- -
	22	- -	23.0	22.1	- -	26.0	26.5	26.0	24.0
	23	23.0	21.8	21.2	25.5	30.5	35.2	32.4	28.0
	24	24.5	27.5	27.0	30.5	35.4	41.5	41.0	35.0
	25	31.3	29.0	29.5	33.5	37.0	39.0	37.0	- -
	26	43.0	39.5	38.0	39.8	40.6	40.8	40.5	39.0
	27	39.5	37.5	36.5	43.4	46.8	48.0	45.4	41.0
	28	37.0	34.5	33.0	41.6	47.0	48.7	45.5	43.0
	29	40.0	40.0	37.5	42.5	43.0	42.5	43.4	41.5
	30	38.5	38.0	34.8	34.0	37.5	38.0	38.0	37.0
	31	36.5	36.0	35.5	40.2	42.0	42.4	40.5	38.0
Hourly means.		34.84	32.89	31.96	35.97	39.76	40.77	38.82	36.40

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
April	1	37.6	37.0	37.5	42.8	44.4	44.0	41.2	40.8
	2	39.6	37.5	36.0	33.8	35.2	37.0	37.0	38.0
	3	39.5	40.5	41.0	44.0	46.2	49.2	47.4	46.0
	4	43.0	38.0	33.5	37.8	39.5	40.5	37.5	37.0
	5	37.0	32.5	36.8	35.8	36.3	38.6	39.4	39.5
	6	39.6	38.5	39.0	44.3	49.0	52.0	50.4	45.5
	7	43.1	38.2	36.0	44.6	50.3	50.0	49.5	44.5
	8	40.0	36.0	36.0	48.0	51.6	54.8	50.5	47.0
	9	45.5	46.0	44.8	46.5	47.4	46.5	45.5	46.0
	10	48.5	48.7	49.5	49.5	51.6	55.0	51.3	48.0
	11	46.8	45.1	45.0	46.6	49.0	49.0	48.0	45.2
	12	41.2	38.0	38.0	48.0	54.0	53.0	49.5	48.5
	13	48.6	47.0	46.5	47.5	48.3	48.0	46.5	45.0
	14	42.3	43.0	40.0	46.4	47.5	46.5	45.6	45.5
	15	43.2	40.1	38.1	47.5	49.5	48.4	47.0	47.4
	16	45.0	43.0	44.0	43.5	43.2	44.2	42.0	41.5
	17	39.5	39.5	40.0	43.8	44.2	46.0	44.0	40.2
	18	38.0	35.0	35.5	44.5	47.5	50.4	48.6	44.0
	19	31.5	38.0	38.5	44.5	49.0	47.5	45.0	39.0
	20	36.5	35.0	37.4	42.3	43.0	44.2	41.5	40.6
	21	41.0	39.0	39.0	43.6	42.2	47.2	46.0	42.0
	22	40.0	38.0	36.5	48.5	56.0	56.0	50.4	47.2
	23	47.0	48.0	49.0	58.5	63.5	64.2	61.5	59.0
	24	57.5	56.0	55.0	62.3	65.5	64.1	62.0	60.5
	25	62.0	60.8	61.0	63.3	63.5	65.0	59.0	55.2
	26	52.0	50.0	48.6	54.0	54.0	54.5	52.5	49.5
	27	47.5	47.5	50.0	57.0	60.0	64.3	61.2	50.2
	28	44.2	40.0	36.8	40.5	46.5	50.0	47.5	40.8
	29	36.5	36.0	34.0	43.5	52.0	54.0	54.5	49.5
	30	47.0	44.5	42.8	51.6	59.0	56.0	55.0	53.5
Hourly means.		43.36	42.05	41.36	46.82	49.63	50.67	48.58	45.89

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
May	1	54.0	53.6	53.5	49.4	52.0	53.0	53.0	48.0
	2	45.0	43.0	42.0	53.0	55.5	55.0	51.5	42.0
	3	42.5	40.0	38.5	42.0	47.6	49.6	46.0	43.7
	4	45.7	40.5	41.5	49.0	54.8	56.4	53.6	49.5
	5	46.5	45.0	43.0	56.5	60.5	60.6	59.5	55.0
	6	52.0	50.0	49.0	57.5	66.0	69.0	65.4	59.5
	7	57.0	56.2	56.5	63.5	68.3	72.6	68.5	65.0
	8	60.5	58.0	- -	67.6	72.0	74.5	70.3	65.5
	9	62.5	60.0	60.4	66.0	70.0	72.0	69.0	66.0
	10	64.1	61.0	61.4	68.2	72.7	71.5	68.5	66.0
	11	65.5	63.0	62.5	67.0	71.0	71.5	59.8	60.0
	12	56.5	55.5	57.5	60.3	63.0	67.2	63.5	61.2
	13	62.0	63.8	63.2	62.2	66.0	64.8	63.2	62.4
	14	60.5	60.0	60.0	65.0	67.8	68.0	63.7	63.0
	15	62.5	61.5	63.0	66.0	66.8	67.0	62.0	58.2
	16	56.5	55.5	60.2	66.0	66.2	68.3	67.2	62.5
	17	59.5	59.5	60.8	62.8	63.5	67.5	67.0	62.0
	18	58.5	58.0	58.6	63.5	70.6	63.5	63.7	62.0
	19	60.5	60.0	60.0	62.5	68.5	68.6	67.0	62.0
	20	59.0	56.2	55.5	61.0	70.5	70.5	67.0	62.0
	21	59.8	57.8	57.5	67.4	72.2	75.6	73.8	69.7
	22	67.0	65.0	64.6	73.7	76.0	80.0	72.6	67.2
	23	61.5	56.0	58.7	65.5	70.4	73.5	71.2	68.0
	24	66.5	66.5	68.6	72.0	76.7	79.0	77.0	67.0
	25	66.0	64.0	64.0	70.5	76.4	76.4	72.3	76.5
	26	64.0	63.0	63.8	65.0	64.4	66.5	64.8	64.0
	27	62.0	61.5	61.8	66.0	70.8	73.5	70.8	64.5
	28	62.5	60.5	59.4	65.0	69.8	69.0	64.0	60.6
	29	56.5	56.6	48.0	56.6	59.5	64.2	64.5	58.0
	30	57.8	55.5	57.6	67.0	72.0	76.5	75.5	67.0
	31	62.5	60.0	60.0	73.5	78.6	81.5	80.0	70.2
Hourly means.		58.61	56.83	57.05	62.94	67.10	68.61	65.67	61.56

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
June	1	67.2	62.5	62.2	74.0	81.7	83.5	80.0	69.0
	2	68.0	66.0	64.0	- -	67.5	64.0	61.8	60.5
	3	59.8	56.5	55.5	66.0	67.4	68.7	67.6	62.0
	4	60.5	57.5	56.8	63.2	67.0	66.0	61.3	57.0
	5	59.0	60.0	60.5	64.0	68.0	70.2	68.5	67.0
	6	63.6	61.2	61.8	71.2	77.6	78.5	66.0	66.7
	7	67.2	60.0	55.5	65.4	62.0	65.0	62.6	57.2
	8	55.5	55.0	56.5	62.5	64.0	68.0	65.0	64.8
	9	66.2	65.0	67.0	71.0	76.0	77.0	75.5	67.0
	10	66.0	64.0	58.0	52.9	57.0	60.2	59.5	57.8
	11	57.0	56.3	52.0	56.0	60.5	63.5	60.2	55.5
	12	54.0	52.5	50.0	57.5	58.0	58.0	56.2	54.5
	13	50.8	46.0	48.0	59.0	60.2	60.0	59.5	54.4
	14	52.5	50.0	50.0	56.0	58.6	61.5	61.0	57.0
	15	52.5	51.4	50.2	61.5	63.5	71.0	70.0	66.0
	16	61.0	57.0	57.5	62.4	67.0	- -	68.0	65.0
	17	63.2	61.0	60.6	70.0	73.0	78.4	75.5	68.0
	18	61.4	57.5	57.0	62.6	69.0	70.2	67.0	62.0
	19	58.0	57.0	60.0	65.0	67.0	69.5	66.2	63.2
	20	61.5	59.5	60.0	66.0	70.8	72.0	67.0	72.5
	21	58.9	55.5	56.5	69.0	77.0	76.0	74.0	61.0
	22	60.5	57.5	58.2	63.5	68.5	70.0	73.5	69.0
	23	66.0	66.0	66.0	77.0	85.5	77.0	77.0	73.3
	24	70.0	69.0	70.0	75.0	78.5	78.5	78.3	75.0
	25	73.5	71.0	69.5	76.0	79.5	79.8	78.5	75.5
	26	73.0	71.0	72.0	77.4	79.5	78.6	77.0	75.0
	27	72.0	72.0	70.6	75.0	76.0	75.7	70.2	62.0
	28	57.0	54.0	54.2	69.5	63.5	65.5	65.2	60.5
	29	58.0	55.0	55.0	63.0	67.0	66.0	65.0	61.8
	30	60.0	58.0	61.0	65.6	70.5	69.2	69.5	68.0
Hourly means.		61.79	59.50	59.20	66.11	69.36	70.40	68.42	64.27

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
July	1	67.8	67.5	69.2	74.3	78.4	81.0	79.5	73.5
	2	74.0	72.5	73.0	79.2	80.0	75.6	78.5	71.0
	3	68.7	69.0	65.4	70.0	77.0	74.0	75.2	70.5
	4	68.0	63.0	61.0	62.5	65.0	64.0	67.5	61.5
	5	59.0	59.0	59.0	65.2	79.0	70.4	69.0	62.4
	6	63.5	60.0	63.5	69.2	73.5	74.3	- -	69.0
	7	69.0	69.0	65.2	73.6	77.4	77.5	79.5	74.5
	8	74.5	73.0	72.0	74.0	74.5	75.0	76.0	74.3
	9	70.0	70.5	68.5	70.0	71.0	72.0	69.7	63.2
	10	64.0	64.0	66.4	70.2	77.2	78.0	75.8	73.0
	11	73.5	74.0	71.0	76.6	81.0	80.0	79.0	72.5
	12	71.6	70.0	70.0	75.5	76.5	76.0	78.6	76.0
	13	73.0	70.8	67.2	67.0	72.2	74.0	72.6	69.0
	14	67.8	65.5	64.5	69.5	72.5	72.5	70.0	67.0
	15	62.5	63.0	62.5	66.0	66.0	69.0	68.7	62.5
	16	60.0	59.0	59.5	63.0	69.5	71.5	69.5	64.0
	17	59.0	60.0	60.0	68.7	72.0	73.5	69.7	65.5
	18	59.0	57.0	58.5	67.2	71.2	73.2	67.3	64.5
	19	60.5	59.8	63.4	70.0	72.4	73.0	74.2	72.5
	20	71.5	70.5	71.0	73.0	77.5	79.0	73.0	73.3
	21	72.0	71.0	65.3	65.5	70.0	66.0	67.0	62.0
	22	57.5	55.5	55.0	56.2	69.0	60.8	59.6	57.0
	23	56.2	54.0	50.8	60.0	64.0	65.5	65.0	60.6
	24	58.0	55.0	53.2	61.2	66.0	64.5	64.2	63.0
	25	60.2	60.5	58.5	59.5	61.5	66.5	65.0	60.6
	26	58.5	59.0	59.8	66.5	70.5	73.0	73.2	69.0
	27	68.0	66.0	64.5	73.0	72.8	73.2	74.0	70.5
	28	69.0	68.0	68.0	74.0	74.5	76.5	74.2	72.5
	29	70.0	68.0	66.6	72.0	74.5	75.5	75.5	73.4
	30	70.6	70.0	71.0	73.6	76.0	77.5	76.8	74.8
	31	75.0	71.0	71.2	75.0	79.0	77.6	78.0	72.2
Hourly means.		66.19	65.00	64.35	69.07	72.95	72.91	71.86	68.24

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
August	1	71.5	70.0	71.5	74.6	80.0	78.5	74.8	72.8
	2	72.0	71.0	72.0	75.0	78.0	79.0	75.0	72.5
	3	71.5	70.5	71.0	72.0	73.5	72.5	69.5	68.5
	4	66.5	67.2	65.0	67.0	70.5	71.0	71.0	69.6
	5	66.5	66.0	64.0	69.7	72.4	74.0	76.0	70.0
	6	69.1	70.0	71.0	74.8	76.5	77.0	76.0	73.6
	7	72.5	72.0	72.8	74.5	76.3	77.0	76.4	74.2
	8	73.0	71.0	68.6	72.0	75.5	75.0	76.5	73.5
	9	70.2	68.0	67.8	71.5	73.5	- -	77.0	73.0
	10	73.5	71.5	70.8	76.8	78.5	81.0	80.2	73.0
	11	72.0	70.5	70.0	74.0	79.5	79.2	74.2	73.6
	12	72.8	72.0	70.2	74.0	77.0	80.0	79.0	76.3
	13	74.5	72.5	72.0	75.8	80.5	79.5	80.0	75.2
	14	74.0	74.0	74.5	76.5	74.0	80.0	79.5	76.4
	15	74.0	72.5	70.5	76.5	78.5	79.5	75.2	74.5
	16	75.5	74.3	78.0	76.7	79.7	80.0	79.0	76.0
	17	76.5	76.0	76.2	78.7	80.5	80.0	77.4	76.5
	18	73.0	73.0	72.0	70.5	73.5	73.5	72.7	73.0
	19	73.0	72.8	68.0	74.0	72.0	71.7	70.5	70.5
	20	70.0	68.5	69.0	71.0	71.3	70.0	69.5	68.0
	21	67.6	68.0	65.5	68.0	72.7	75.5	73.7	70.5
	22	70.0	69.0	72.0	74.5	76.0	76.0	71.4	70.2
	23	70.0	69.2	67.8	67.7	78.7	72.5	72.4	68.2
	24	68.5	69.0	67.0	71.0	76.5	77.5	75.4	73.0
	25	72.5	69.6	68.5	73.5	77.5	75.5	75.0	72.0
	26	72.0	68.0	67.0	67.0	69.0	74.2	77.8	75.0
	27	73.0	71.0	67.0	70.5	69.5	70.3	66.3	67.0
	28	63.5	63.0	62.0	63.2	65.0	66.6	66.0	63.2
	29	63.0	60.0	59.5	65.5	76.6	63.8	63.8	60.2
	30	59.0	59.0	56.5	60.5	62.5	63.6	63.5	62.0
	31	55.0	54.0	53.0	59.8	62.8	60.0	60.5	58.2
Hourly means.		70.18	69.13	68.41	71.51	74.45	74.46	73.46	71.97

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
September	1	56.5	54.5	52.5	59.7	62.3	64.5	62.5	61.2
	2	58.7	56.0	54.0	63.0	64.3	66.9	63.0	59.8
	3	60.5	61.0	62.0	63.0	62.7	65.5	62.8	64.5
	4	66.0	65.8	65.5	66.5	69.0	71.2	70.5	68.5
	5	70.0	69.5	70.0	68.8	73.2	70.5	65.2	63.0
	6	69.8	60.0	59.0	57.7	58.7	58.0	57.5	57.0
	7	56.2	54.2	52.0	58.0	63.4	64.0	61.0	57.0
	8	54.5	52.4	50.0	58.0	59.5	59.8	58.5	58.2
	9	58.0	58.5	57.5	59.4	64.2	67.0	67.3	63.0
	10	62.0	62.5	62.5	65.5	67.8	68.6	68.5	66.4
	11	65.2	64.0	64.5	65.0	70.0	68.2	59.5	59.0
	12	57.4	56.5	53.5	54.0	53.2	56.7	53.5	52.0
	13	52.0	51.0	50.0	54.8	58.4	60.0	58.5	55.0
	14	53.2	51.0	50.2	57.8	58.0	60.0	60.4	59.8
	15	59.8	58.5	58.0	63.0	63.7	66.8	64.3	60.5
	16	58.0	57.0	53.0	57.0	58.0	60.2	58.5	56.5
	17	53.2	51.5	50.5	57.0	65.5	68.4	62.3	58.0
	18	59.0	58.4	58.2	62.0	63.2	66.0	63.5	63.5
	19	63.0	60.5	59.0	57.0	58.5	60.0	57.0	54.0
	20	52.0	49.0	48.0	54.0	63.5	66.2	64.0	60.0
	21	58.6	56.5	55.0	60.0	69.0	72.0	68.5	66.0
	22	65.0	62.5	62.5	63.5	68.0	69.2	66.0	66.2
	23	65.0	65.4	64.5	66.7	68.0	69.0	67.3	67.0
	24	67.5	69.5	69.7	72.3	73.5	71.5	66.0	60.0
	25	52.5	48.0	. .	47.7	52.2	53.0	51.2	48.8
	26	47.5	48.0	46.0	53.5	60.8	65.0	60.5	57.0
	27	55.0	55.0	53.5	58.6	66.9	67.0	63.5	62.5
	28	60.2	60.5	62.5	67.0	68.3	71.0	69.5	67.2
	29	66.5	65.5	66.0	70.5	73.5	71.0	69.0	68.0
	30	68.0	69.5	68.5	65.6	64.0	67.2	60.5	54.5
Hourly means.		59.39	58.41	57.87	60.89	64.04	65.48	62.68	60.47

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
October	1	51.0	49.0	49.0	50.6	53.2	55.2	56.0	56.0
	2	58.0	57.5	59.0	61.2	63.5	66.5	64.0	62.0
	3	60.3	58.0	57.6	59.8	62.0	63.7	63.0	60.0
	4	60.0	60.0	61.5	63.8	66.6	68.0	67.5	67.0
	5	64.5	64.6	65.0	66.5	67.5	70.5	68.4	67.5
	6	67.0	66.5	67.5	70.6	74.4	69.0	68.0	67.0
	7	65.5	63.0	61.0	59.7	62.7	66.5	62.0	61.2
	8	60.6	52.0	48.0	46.6	47.5	44.5	40.5	40.0
	9	38.4	37.5	37.0	38.5	41.5	40.5	37.5	35.5
	10	35.1	32.2	31.4	41.2	51.0	55.2	49.2	47.2
	11	46.5	44.5	43.5	50.4	64.8	54.5	51.6	46.5
	12	45.0	43.5	43.2	48.6	58.6	54.5	52.5	48.2
	13	47.5	43.0	41.0	43.8	45.5	46.8	43.4	42.0
	14	40.5	38.5	37.0	43.8	51.5	50.8	49.0	46.5
	15	46.0	45.0	44.3	51.8	55.5	56.0	52.5	51.6
	16	51.6	48.5	48.0	49.6	52.5	51.2	47.0	48.0
	17	44.2	41.0	39.0	46.0	52.0	52.4	49.0	46.0
	18	44.0	40.0	39.0	44.5	56.8	56.2	54.0	50.0
	19	41.5	38.5	37.5	49.2	47.7	49.2	46.0	44.5
	20	44.6	42.0	40.0	43.6	46.2	48.3	47.0	42.0
	21	37.0	36.5	37.5	44.1	49.6	53.2	47.8	46.8
	22	46.3	43.2	41.2	40.5	42.0	41.6	39.5	39.0
	23	38.5	37.5	37.5	45.0	48.5	49.0	47.2	43.6
	24	42.3	41.4	39.8	45.2	51.5	50.3	48.0	46.8
	25	46.0	40.0	36.0	46.5	54.2	52.7	46.8	43.0
	26	40.2	38.6	36.0	43.5	52.6	51.2	48.5	47.2
	27	47.0	47.5	48.0	51.0	57.0	55.0	54.5	56.5
	28	57.5	55.5	52.0	48.6	49.2	48.5	45.0	44.8
	29	43.0	42.5	42.0	46.0	50.5	50.0	47.0	43.0
	30	40.2	37.5	35.0	42.5	48.2	49.5	46.0	42.0
	31	39.8	36.0	34.5	42.5	47.4	46.0	43.6	42.5
Hourly means.		48.05	45.84	44.81	49.20	53.93	53.76	51.03	49.16

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
November	1	42.8	42.0	38.5	41.0	43.0	44.6	41.0	36.5
	2	34.0	32.8	34.5	38.5	39.8	39.7	38.2	37.0
	3	38.5	38.0	38.0	38.2	41.0	41.6	40.5	43.0
	4	43.9	44.5	46.0	47.0	50.4	49.5	44.0	40.5
	5	38.6	39.0	39.0	39.0	37.2	36.5	34.5	32.0
	6	29.5	27.5	27.0	34.5	47.0	48.0	44.2	43.5
	7	44.5	49.0	49.5	52.2	54.5	55.2	54.8	56.3
	8	55.8	56.0	56.3	58.2	61.0	60.0	60.0	58.9
	9	61.4	60.0	60.0	62.0	64.5	65.0	63.0	63.5
	10	62.6	64.0	65.0	59.0	58.0	53.0	47.2	45.0
	11	41.5	40.0	39.0	40.5	44.0	46.5	42.3	42.6
	12	39.0	39.0	39.0	42.5	49.5	46.0	40.4	35.6
	13	35.2	33.7	31.3	33.5	34.6	32.5	31.4	30.2
	14	28.0	26.6	28.5	31.0	33.0	34.5	30.5	29.0
	15	27.0	26.0	27.0	32.0	37.5	42.5	41.5	37.2
	16	34.5	33.0	31.0	35.2	43.7	43.0	38.3	35.5
	17	37.0	37.0	38.5	41.0	45.4	45.6	45.0	45.0
	18	46.0	46.0	47.8	50.0	52.5	51.3	48.0	46.4
	19	45.5	44.2	43.0	39.2	43.5	43.7	39.5	36.5
	20	37.5	37.6	37.8	40.5	41.8	43.8	43.6	43.5
	21	44.0	43.5	43.0	43.5	44.6	45.0	44.8	44.0
	22	38.4	33.5	32.8	30.0	31.5	30.5	29.6	29.5
	23	25.8	23.2	22.0	- -	- -	- -	- -	- -
	24	- -	- -	- -	- -	37.2	37.8	32.4	38.5
	25	- -	- -	- -	27.5	38.6	40.6	36.2	34.0
	26	33.0	32.5	31.0	35.0	41.8	42.5	40.0	40.0
	27	39.5	36.0	34.2	37.4	48.5	48.2	43.0	41.0
	28	33.8	36.0	39.5	43.2	49.1	53.0	50.0	49.6
	29	49.0	49.5	49.0	54.5	60.2	61.5	56.0	53.0
	30	53.6	51.5	49.5	51.0	56.5	60.0	49.2	45.3
Hourly means.		40.71	40.06	39.92	42.04	45.51	46.26	43.07	41.81

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
December	1	42.0	39.0	40.5	42.1	46.6	46.8	44.5	42.5
	2	40.5	40.0	40.0	41.7	46.7	47.0	48.0	48.0
	3	47.5	47.2	48.7	50.0	55.0	57.4	55.9	54.0
	4	43.0	40.4	38.0	38.5	39.5	40.3	36.4	32.5
	5	30.5	30.2	27.0	33.5	39.6	41.5	41.0	38.5
	6	36.0	36.0	36.5	41.5	48.0	50.0	46.0	41.0
	7	37.8	38.2	39.8	43.0	51.2	54.2	54.0	55.5
	8	48.5	40.0	30.0	28.0	27.6	29.5	28.0	24.8
	9	19.5	18.8	16.0	18.0	23.6	24.0	24.0	24.0
	10	- -	- -	- -	- -	- -	32.0	31.2	31.4
	11	31.0	30.7	32.0	32.3	33.0	34.0	32.4	23.5
	12	11.5	10.8	11.8	17.5	23.0	22.5	19.6	17.5
	13	- -	- -	- -	- -	27.0	27.0	29.0	29.5
	14	32.0	32.5	34.5	36.5	38.0	42.5	38.0	38.0
	15	35.0	- -	- -	- -	26.8	27.0	28.0	29.5
	16	29.0	27.5	28.2	30.8	32.5	34.5	33.0	32.0
	17	32.2	32.5	33.2	34.0	36.3	38.6	37.6	35.0
	18	36.5	34.5	32.6	34.7	38.5	37.8	35.2	35.5
	19	36.0	36.2	36.3	40.0	44.0	46.4	48.4	40.7
	20	34.8	28.0	26.5	- -	- -	- -	- -	25.4
	21	26.5	28.0	28.7	31.0	32.0	32.0	32.4	30.0
	22	27.4	26.8	26.0	25.0	- -	- -	- -	- -
	23	- -	- -	- -	- -	- -	22.5	22.0	21.5
	24	23.0	24.0	25.0	27.0	33.5	33.5	32.5	27.0
	25	24.0	22.0	20.0	23.0	34.0	38.0	34.5	35.0
	26	35.0	35.5	35.5	36.4	39.8	40.5	37.6	36.0
	27	36.3	35.9	35.5	36.5	38.8	41.0	41.0	41.5
	28	41.8	42.5	42.0	42.5	46.8	47.5	45.8	42.0
	29	38.2	35.0	32.0	29.6	30.4	30.3	28.5	27.5
	30	26.8	27.5	27.0	30.0	34.3	36.0	33.5	36.0
	31	34.0	32.5	32.8	33.2	33.5	28.0	27.6	24.0
Hourly means.		33.44	32.30	31.71	33.70	37.07	37.32	36.06	33.98

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
January	1	44.0	46.0	46.0	48.0	72.0	73.0	71.0	12.0
	2	8.0	8.0	7.0	36.0	62.0	65.2	65.5	24.0
	3	15.0	12.0	10.0	29.0	74.0	77.0	67.0	40.0
	4	. .	30.0	28.0	35.0	38.0	39.0	32.0	27.0
	5	24.0	24.0	24.0	35.0	49.8	70.0	69.0	42.0
	6	20.0	19.0	18.0	32.0	44.5	49.0	45.0	28.0
	7	16.0	12.0	. .	43.0	73.0	53.0	43.0	20.0
	8	. .	. .	. .	. .	79.0	79.0	54.0	19.2
	9	18.0	16.0	14.0	54.0	66.0	65.0	57.0	. .
	10	. .	10.0	10.5	39.0	71.0	78.5	67.0	22.5
	11	20.0	16.0	12.0	41.0	71.2	77.5	. .	. .
	12	31.0	16.0	11.2	47.0	77.0	. .	77.0	21.5
	13	20.0	18.0	18.0	28.0	48.0	51.5	40.0	33.0
	14	29.0	20.0	20.0	21.0	74.5	82.0	55.0	33.5
	15	34.0	32.0	30.0	37.0	46.0	78.0	78.0	48.0
	16	44.0	32.0	28.0	58.5	75.0	80.0	74.0	29.0
	17	30.0	26.0	24.0	38.0	57.0	77.0	55.0	38.0
	18	33.0	34.0	38.0	41.0	42.0	43.0	43.0	39.0
	19	38.0	44.0	46.0	63.0	83.0	61.0	52.0	40.0
	20	31.0	31.0	31.2	53.0	67.0	80.0	75.0	33.2
	21	33.5	30.0	30.0	38.0	74.0	78.0	48.0	36.0
	22	34.0	34.0	33.8	41.0	83.0	84.0	78.0	35.0
	23	32.0	28 0	24.0	53.8	83.2	89.0	79.0	48.0
	24	41.0	36.0	34.0	70.0	90.0	79.0	84.7	51.0
	25	48.7	44.0	39.0	55.0	104.7	104.6	105.0	48.0
	26	38.0	40.0	42.0	74.5	92.0	94.5	90.0	47.5
	27	38.0	32.0	28.0	62.7	92.5	98.0	60.0	50.0
	28	43.0	35.0	32.0	72.0	102.0	106.0	102.4	53.0
	29	48.0	40.0	30.0	54.0	97.0	98.4	102.0	50.0
	30	40.0	39.0	39.8	42.0	46.0	48.0	39.8	38.0
	31	39.0	38.0	36.0	41.3	56.0	61.0	48.0	46.0
Hourly means.		31.79	28.66	27.05	46.09	70.66	73.97	65.21	36.29

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
February	1	41.0	39.5	39.0	42.0	45.0	51.0	51.0	45.5
	2	45.0	40.0	40.0	45.5	71.5	71.5	63.0	38.0
	3	33.0	38.0	36.2	36.0	54.0	69.0	67.0	30.0
	4	26.0	24.0	22.0	58.0	65.4	84.5	80.0	45.0
	5	38.0	38.0	36.0	67.0	89.0	89.0	85.0	41.4
	6	40.0	38.0	38.0	42.0	52.2	52.5	52.0	44.0
	7	40.0	39.5	39.0	42.0	53.0	84.0	78.0	40.0
	8	36.0	32.0	30.0	70.0	69.0	82.0	78.0	40.0
	9	32.0	33.0	24.0	62.5	77.0	87.0	80.0	30.0
	10	26.0	22.0	20.0	58.0	79.0	. .	. .	30.0
	11	. .	18.0	12.0	57.5	76.0	80.0	75.0	30.0
	12	28.0	26.0	26.0	56.3	67.5	85.0	70.0	40.0
	13	30.0	27.0	26.0	65.5	94.0	96.0	90.0	38.0
	14	33.0	32.0	30.0	69.5	93.0	93.0	90.0	40.0
	15	34.8	25.0	24.0	38.0	49.0	48.0	37.2	33.0
	16	32.0	30.0	30.0	41.5	79.0	79.0	72.0	20.0
	17	10.0	7.0	6.0	30.0	49.0	70.0	59.0	6.0
	18	3.5	3.0	3.0	39.0	64.5	69.0	62.0	. .
	19	. .	9.0	4.5	4.5	68.0	70.0	66.0	13.5
	20	11.0	10.0	8.0	59.0	78.0	85.0	78.0	44.0
	21	28.0	29.0	22.0	58.5	75.5	80.0	74.0	39.0
	22	38.0	33.0	29.0	49.8	55.7	78.0	77.5	43.0
	23	37.0	35.2	32.0	74.0	110.0	110.0	100.0	50.0
	24	47.0	46.0	44.0	84.0	102.0	97.0	90.0	44.0
	25	36.0	29.0	30.0	43.0	72.5	88.0	88.0	49.0
	26	49.0	35.0	33.0	67.0	82.0	87.3	. .	33.0
	27	28.5	26.0	24.0	70.0	93.0	97.0	80.0	42.0
	28	38.0	38.0	36.0	65.0	86.0	86.2	81.0	55.5
	29	57.0	56.0	50.0	50.0	58.0	49.0	48.0	41.5
Hourly means.		31.03	29.66	27.37	54.67	72.68	79.21	73.03	37.38

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
March	1	39.0	. .	. .	36.0	44.0	39.0	33.0	. .
	2	36.0	31.0	. .	74.0	92.0	91.0	75.8	35.0
	3	29.0	26.0	22.0	70.0	87.0	93.2	88.0	33.0
	4	29.0	27.0	27.0	69.0	95.5	98.0	84.0	48.0
	5	44.0	44.0	46.0	59.0	60.0	55.0	95.0	45.0
	6	36.0	34.0	37.0	51.0	52.0	58.0	54.0	40.0
	7	37.0	32.0	30.0	70.0	93.0	95.0	91.0	45.0
	8	. .	32.0	37.0	42.0	45.5	53.0	68.0	37.0
	9	34.0	28.0	26.0	75.0	93.3	95.5	95.0	46.0
	10	38.0	36.0	38.0	44.2	53.0	. .	. .	48.0
	11	44.0	44.0	45.0	46.0	50.0	50.0	. .	. .
	12	45.0	36.0	32.0	89.8	104.4	104.3	. .	60.0
	13	42.0	39.0	35.0	83.3	93.4	101.0	. .	90.0
	14	42.0	40.0	37.0	73.0	93.6	97.5	. .	. .
	15	38.0	34.0	32.0	80.6	103.2	76.0	55.0	33.0
	16	28.0	26.0	22.0	66.0	83.5	69.5	50.2	30.0
	17	28.0	26.0	25.0	73.0	88.0	99.0	78.0	36.0
	18	33.0	32.5	32.0	78.0	92.0	95.0	85.5	50.0
	19	45.0	36.0	33.9	59.5	94.0	94.0	85.0	43.0
	20	39.0	35.0	25.0	75.0	94.5	95.0	87.0	39.0
	21	29.5	22.0	19.0	60.0	68.0	81.0	75.0	28.0
	22	20.0	18.0	18.2	35.0	47.0	41.0	34.0	27.0
	23	. .	. .	. .	67.0	84.0	84.6	78.0	39.0
	24	24.0	24.0	23.5	72.0	89.0	95.5	90.0	47.0
	25	32.5	31.0	30.0	47.5	70.4	52.0	50.0	45.0
	26	42.0	41.0	37.0	54.0	69.5	59.0	54.0	43.0
	27	40.0	38.0	35.0	83.0	98.0	102.0	95.0	51.0
	28	40.0	34.0	32.5	77.0	98.0	101.0	81.0	49.0
	29	42.5	40.0	37.0	54.0	63.0	55.0	54.0	44.0
	30	. .	40.0	36.0	39.0	56.0	63.0	49.6	39.0
	31	38.0	36.0	36.0	63.2	79.8	87.0	59.0	44.0
Hourly means.		36.23	33.19	31.26	63.45	78.60	82.27	70.95	43.36

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
April	1	44.0	39.5	37.0	73.0	87.0	75.0	49.6	42.0
	2	41.0	36.0	35.0	35.5	39.5	44.0	44.0	37.0
	3	36.0	37.0	42.0	60.0	78.0	83.0	86.0	62.0
	4	47.0	44.0	32.0	71.0	65.8	60.0	52.0	38.0
	5	36.0	37.0	36.5	38.0	41.0	43.5	45.0	39.5
	6	39.0	38.0	39.0	67.0	102.0	103.0	96.0	60.0
	7	. .	40.0	36.5	85.0	101.5	94.0	100.0	57.0
	8	40.0	32.0	35.0	96.0	103.5	105.0	102.0	60.0
	9	46.0	46.0	46.0	56.0	60.0	55.0	52.0	46.8
	10	49.0	49.2	53.0	68.2	103.0	120.0	101.5	60.0
	11	50.0	48.0	45.0	62.0	89.0	. .	. .	55.0
	12	45.0	39.0	35.0	86.8	106.8	112.3	. .	72.0
	13	48.0	47.0	47.0	91.0	108.0	. .	. .	. .
	14	41.0	40.0	39.0	93.0	107.0	89.0	62.0	49.0
	15	43.0	38.0	36.0	80.0	92.0	90.0	72.0	51.5
	16	45.0	42.0	45.0	48.0	59.0	56.5	50.0	43.0
	17	41.0	39.5	41.5	73.5	98.5	101.0	95.0	55.0
	18	38.0	35.0	32.0	92.0	104.0	116.5	113.0	62.0
	19	39.0	35.0	38.0	80.0	105.0	106.5	84.0	62.0
	20	44.0	40.0	39.0	87.5	82.0	71.0	69.0	45.0
	21	40.0	39.0	41.5	87.0	120.0	113.0	101.0	55.0
	22	37.0	33.0	32.0	87.0	107.0	107.0	101.0	56.0
	23	50.0	49.5	51.0	103.0	117.0	116.0	110.0	69.8
	24	60.0	58.0	57.0	100.0	104.0	107.0	79.0	65.0
	25	65.0	62.0	61.0	95.0	120.0	127.0	109.0	63.0
	26	55.0	52.0	50.0	113.0	114.0	115.0	101.0	59.0
	27	48.0	46.0	56.0	102.5	117.0	124.0	118.0	65.0
	28	55.0	45.0	37.0	89.0	109.0	112.5	103.0	52.0
	29	. .	39.0	33.0	98.0	115.0	114.0	100.0	55.0
	30	50.0	45.0	42.0	85.0	110.0	100.0	61.0	55.0
Hourly means.		45.43	42.36	41.50	80.10	95.52	95.03	83.56	54.54

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
May	1	55.0	52.0	53.0	58.4	113.0	116.0	97.0	55.0
	2	48.0	46.0	45.0	82.0	97.0	107.5	99.0	54.0
	3	- -	41.2	36.0	82.0	110.0	105.0	105.0	52.0
	4	43.0	42.0	42.0	94.0	112.0	114.0	106.0	59.0
	5	43.0	42.0	42.2	101.0	118.0	119.5	113.5	68.0
	6	49.0	44.0	46.0	101.5	124.0	126.0	120.5	72.5
	7	52.0	54.0	56.0	102.0	130.0	129.0	122.0	73.0
	8	57.0	52.0	- -	112.0	130.0	130.0	127.0	76.0
	9	64.0	58.0	61.0	107.0	127.5	128.0	116.0	73.0
	10	66.0	62.0	62.0	105.0	121.0	125.0	120.0	77.0
	11	75.0	70.0	67.0	103.0	125.0	119.0	98.0	61.0
	12	58.0	54.0	59.0	70.0	92.0	95.0	108.0	64.0
	13	62.0	62.0	64.0	67.5	89.5	109.0	87.3	66.0
	14	62.0	61.0	61.5	104.0	109.0	119.0	119.0	74.0
	15	66.0	63.0	66.0	98.5	108.5	105.0	97.0	62.0
	16	55.0	54.0	62.0	107.0	103.0	127.0	113.0	72.0
	17	58.0	56.0	61.0	71.0	88.0	120.0	115.0	76.0
	18	58.0	55.0	60.0	86.0	124.9	128.0	- -	- -
	19	60.0	59.0	61.0	72.0	123.0	127.0	99.0	69.0
	20	58.0	55.0	60.0	94.0	125.0	125.5	117.0	73.0
	21	54.0	53.0	67.0	110.0	125.0	128.0	114.0	76.0
	22	66.5	64.0	67.0	110.0	124.0	125.0	118.0	74.0
	23	64.0	58.0	61.0	107.0	118.0	125.0	116.0	76.0
	24	69.0	66.0	71.0	98.0	124.3	127.0	121.0	80.0
	25	76.0	68.0	64.5	110.0	127.0	128.0	117.0	75.0
	26	64.0	63.0	63.0	68.0	74.8	83.2	82.0	69.0
	27	62.0	62.0	62.5	107.0	123.0	127.0	116.0	73.0
	28	62.0	59.0	59.0	102.0	122.0	125.5	97.0	68.0
	29	68.0	59.0	50.0	99.0	113.0	114.0	112.0	78.0
	30	58.0	55.0	59.0	104.7	121.0	124.0	119.0	84.0
	31	61.0	57.0	58.0	110.0	130.0	130.0	124.0	84.0
Hourly means.		59.78	56.33	58.22	95.02	115.24	119.71	110.51	70.45

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
June	1	62.0	59.0	60.0	101.0	129.0	131.8	123.0	85.0
	2	68.0	64.0	65.0	95.0	109.0	87.0	69.0	65.0
	3	60.0	57.0	55.0	106.0	114.0	123.0	117.0	76.0
	4	55.0	54.0	58.0	92.0	117.0	118.0	100.3	75.0
	5	62.0	60.0	64.0	82.5	108.0	112.0	112.0	79.0
	6	67.0	63.0	64.0	115.0	126.0	130.0	125.0	67.0
	7	61.0	63.0	60.0	104.0	114.6	116.0	114.0	73.0
	8	55.0	52.0	60.7	102.5	109.0	113.0	110.0	74.0
	9	69.0	67.0	69.0	97.5	128.0	132.0	124.0	82.0
	10	65.0	62.0	67.0	99.5	113.5	115.5	112.0	74.0
	11	68.0	59.0	58.5	101.0	115.0	116.0	104.0	74.0
	12	60.0	54.0	50.0	105.0	120.0	124.0	118.0	70.0
	13	48.0	44.0	47.0	113.0	125.0	128.0	113.0	70.0
	14	48.0	44.0	52.0	72.0	80.0	111.0	108.5	80.0
	15	51.0	49.0	49.0	105.0	123.0	125.0	122.0	95.0
	16	60.0	58.0	59.0	103.0	125.0	124.0	121.0	87.0
	17	63.0	61.0	63.0	115.0	131.0	133.0	126.0	78.0
	18	68.0	62.0	61.0	96.0	120.0	120.0	114.5	88.0
	19	67.0	58.0	62.0	116.0	117.0	128.0	106.0	72.0
	20	63.0	58.0	65.0	93.0	122.0	125.0	128.0	89.0
	21	57.0	54.0	57.0	113.0	128.0	129.2	124.0	83.0
	22	65.0	56.0	61.0	100.0	118.0	120.0	115.0	93.0
	23	65.0	61.0	67.0	112.0	132.0	131.0	130.0	101.0
	24	73.0	70.0	74.0	115.2	133.5	133.8	132.3	- -
	25	75.0	72.0	75.0	123.0	138.7	139.0	103.0	- -
	26	76.0	68.0	79.0	126.0	140.0	145.5	95.0	90.0
	27	73.0	70.0	73.0	119.0	140.0	142.0	129.0	80.0
	28	66.0	54.0	56.0	108.0	121.5	125.0	116.0	95.0
	29	58.2	54.0	58.0	111.5	126.5	137.0	109.0	80.0
	30	67.0	56.0	64.0	110.0	127.0	92.0	96.5	84.0
Hourly means.		63.17	58.77	61.77	108.39	121.71	123.56	113.90	80.68

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
July	1	68.0	67.0	70.0	107.5	127.5	131.0	131.0	87.0
	2	75.0	68.0	76.0	126.0	134.5	97.0	97.5	80.0
	3	70.0	69.0	71.0	117.0	137.0	133.0	103.0	79.5
	4	70.0	68.0	74.2	108.0	117.0	105.0	113.0	93.0
	5	60.0	59.0	58.0	113.0	129.8	127.8	124.0	75.0
	6	70.0	60.0	65.0	122.0	138.0	133.0	125.0	80.0
	7	78.0	73.0	71.0	127.0	122.0	118.0	122.0	82.0
	8	73.0	70.0	77.0	124.5	122.5	113.5	100.0	84.0
	9	70.0	69.0	74.0	110.0	136.5	134.0	109.0	80.0
	10	70.0	68.0	72.0	121.0	140.0	122.0	89.0	80.0
	11	74.0	73.5	76.0	104.0	93.5	89.6	89.8	82.0
	12	80.0	68.0	70.0	128.0	133.5	84.0	108.0	73.0
	13	72.5	72.0	73.0	92.0	135.0	124.0	103.0	69.0
	14	68.0	64.0	64.0	106.0	135.5	118.5	103.0	67.0
	15	64.8	61.0	66.0	111.0	122.0	124.6	99.0	66.0
	16	60.0	55.0	58.5	103.5	125.0	125.0	98.5	62.0
	17	56.0	54.0	60.0	112.0	132.0	128.0	100.0	65.0
	18	60.0	58.0	59.0	98.5	133.0	129.0	78.0	66.0
	19	60.2	56.0	68.0	107.0	129.0	107.0	93.0	74.0
	20	70.0	68.0	74.0	108.5	127.0	130.0	86.0	72.0
	21	70.8	69.0	67.0	82.0	124.0	92.0	83.5	66.0
	22	58.0	49.0	54.0	99.0	105.0	103.0	74.5	55.0
	23	53.0	50.0	49.5	95.0	118.0	119.0	86.0	56.0
	24	52.0	49.0	51.0	102.0	106.0	99.0	72.0	64.0
	25	60.0	58.0	58.0	64.2	84.6	99.0	75.0	60.0
	26	58.0	56.0	60.0	108.0	127.0	122.0	89.0	68.0
	27	65.0	63.0	66.0	102.0	122.0	113.0	82.0	68.0
	28	64.0	64.0	70.0	111.0	121.0	131.0	92.0	70.0
	29	67.0	62.0	65.5	107.0	132.0	132.5	95.0	72.0
	30	68.0	67.5	76.0	116.0	133.0	140.0	102.0	75.0
	31	73.0	68.0	72.0	104.0	142.0	139.0	95.5	78.0
Hourly means.		66.40	63.10	66.64	107.64	125.32	118.18	97.36	72.53

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864		°	°	°	°	°	°	°	°
August	1	76.0	74.0	76.0	111.0	131.0	142.5	97.0	76.0
	2	69.0	68.0	73.0	96.0	127.0	127.0	76.0	70.0
	3	70.0	68.0	73.0	101.5	117.0	112.0	101.2	68.0
	4	66.2	66.0	70.0	96.5	131.5	135.0	104.0	76.0
	5	63.0	62.0	62.5	114.0	- -	134.0	99.5	73.0
	6	70.0	69.2	70.0	97.2	101.2	85.0	93.0	72.0
	7	68.0	66.0	74.0	96.0	114.0	114.0	85.5	75.0
	8	72.0	70.0	72.0	100.0	128.0	125.0	89.0	70.0
	9	66.0	64.0	68.0	103.5	131.0	128.0	94.0	72.0
	10	71.0	70.0	70.0	125.0	140.0	137.0	100.0	75.0
	11	70.0	68.0	71.8	122.0	141.0	135.0	86.0	75.0
	12	72.0	71.0	69.0	109.0	136.0	137.0	103.0	76.0
	13	74.0	70.0	71.0	124.0	138.0	140.0	93.0	74.0
	14	76.0	75.5	75.0	103.0	146.0	100.0	98.0	75.0
	15	73.0	70.0	70.0	100.0	112.0	111.5	76.0	72.0
	16	75.0	74.0	76.0	106.5	116.7	96.3	82.0	76.0
	17	75.0	75.2	77.5	125.4	131.5	99.5	79.0	76.0
	18	71.0	70.4	71.0	78.5	98.9	96.2	75.5	71.2
	19	76.0	75.5	69.0	81.5	102.5	95.5	75.5	71.0
	20	70.0	69.0	69.0	82.4	85.7	86.5	88.5	71.0
	21	69.0	68.0	67.0	89.0	103.5	120.0	81.0	69.0
	22	68.5	68.0	74.0	95.5	106.0	95.0	71.4	69.5
	23	69.0	68.0	67.0	107.0	126.0	133.8	76.0	68.0
	24	67.5	67.0	65.5	97.0	120.5	129.5	75.0	70.0
	25	70.0	67.0	68.0	89.0	136.5	93.0	75.5	72.0
	26	70.0	65.0	66.0	111.0	125.0	124.5	80.0	75.0
	27	72.5	70.2	67.0	78.0	129.0	103.5	77.8	69.0
	28	61.0	59.0	62.0	111.0	98.0	87.2	71.8	62.0
	29	60.8	58.5	60.0	112.0	128.0	94.5	76.5	60.0
	30	56.5	54.5	53.8	107.0	124.0	124.0	74.5	62.0
	31	56.0	52.0	54.0	84.2	103.5	120.8	68.0	56.0
Hourly means.		69.21	67.52	68.78	101.73	120.80	114.93	84.62	70.86

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
September 1	54.0	52.2	49.0	108.8	123.2	129.2	71.7	59.0
2	55.0	52.0	51.0	107.5	122.5	129.2	66.0	58.0
3	59.0	60.0	62.0	70.0	76.5	77.8	68.0	67.0
4	65.5	66.0	67.0	73.7	82.3	94.7	73.0	65.0
5	66.0	68.0	69.0	80.5	109.0	91.7	65.0	62.0
6	61.0	59.5	59.0	62.3	63.5	67.2	57.8	57.0
7	56.5	54.0	50.0	105.0	122.0	105.5	65.0	53.0
8	51.0	48.0	46.0	106.0	103.0	68.0	59.0	58.0
9	58.0	57.5	59.0	78.0	127.0	120.0	70.0	58.5
10	57.2	57.5	60.0	79.0	98.0	93.0	67.5	63.2
11	63.0	62.0	63.0	72.0	119.0	93.5	60.0	56.5
12	55.5	55.5	53.7	64.0	76.0	93.5	54.5	50.0
13	49.0	48.0	48.0	47.3	114.0	104.0	60.5	56.0
14	53.0	48.7	48.0	85.0	69.0	83.0	60.0	58.5
15	59.0	58.5	58.0	101.2	123.7	123.7	68.5	62.0
16	58.0	56.2	51.0	104.0	94.0	113.0	57.2	52.0
17	48.5	48.0	47.0	104.0	120.4	123.5	59.0	52.0
18	56.0	54.2	53.0	98.0	81.0	83.0	64.0	62.0
19	60.0	58.5	57.0	84.5	120.0	108.0	55.5	50.0
20	47.0	46.0	45.0	100.0	108.0	115.0	60.0	57.0
21	52.0	53.0	55.0	88.0	128.0	100.0	67.0	66.0
22	64.0	62.0	60.0	108.0	120.0	113.0	68.0	66.0
23	60.0	59.5	64.0	80.0	91.8	88.0	68.0	67.0
24	68.0	70.0	69.0	86.0	134.5	93.0	69.0	55.0
25	54.0	49.0	- -	94.2	102.0	100.0	52.0	49.0
26	44.0	42.0	41.5	103.5	125.0	107.0	56.5	51.0
27	50.8	45.0	46.5	106.0	128.3	138.0	61.5	60.0
28	54.0	53.0	56.0	92.0	84.6	92.0	69.0	65.0
29	65.5	65.0	66.0	102.0	117.0	101.5	72.0	68.0
30	69.0	68.0	67.0	73.5	86.0	97.0	63.5	97.0
Hourly means.	57.12	56.23	59.33	88.80	105.64	101.53	63.62	60.02

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
October 1	53.5	50.0	51.0	60.3	60.5	57.0	58.0	58.0
2	58.0	57.5	59.0	70.0	108.0	102.0	63.0	62.0
3	60.0	58.5	57.5	71.0	71.5	69.7	63.5	60.0
4	59.8	59.5	63.0	74.0	92.0	77.0	67.0	64.0
5	64.0	64.5	65.0	70.0	70.5	95.0	69.0	68.0
6	66.0	65.5	68.5	102.0	127.5	79.2	68.0	65.2
7	65.0	60.0	57.0	102.0	122.5	94.0	61.0	57.6
8	59.0	54.2	51.0	68.0	108.0	108.0	43.5	40.0
9	38.0	37.0	35.0	61.0	75.0	65.2	36.5	32.0
10	29.0	25.0	25.0	85.0	108.0	91.0	46.0	45.0
11	44.0	41.0	39.0	95.0	118.0	87.0	47.5	43.0
12	39.0	37.8	38.0	60.0	85.0	56.0	52.0	44.0
13	44.0	42.0	39.0	86.0	80.2	90.5	43.0	40.0
14	34.0	33.8	33.5	89.0	107.0	77.0	47.0	41.8
15	41.0	40.0	42.0	93.7	109.0	75.0	49.5	52.0
16	52.5	48.0	44.0	57.0	112.0	95.0	50.5	48.0
17	38.0	38.0	38.0	89.0	110.5	85.0	48.5	44.0
18	39.5	37.0	35.0	64.8	115.5	99.0	47.0	40.0
19	35.5	33.5	32.0	93.0	105.0	82.0	43.0	46.0
20	44.0	39.0	37.0	64.0	69.5	91.2	39.4	38.0
21	33.0	33.0	33.0	83.0	107.0	91.0	43.5	44.0
22	45.0	43.6	39.0	66.0	90.0	75.5	44.0	43.0
23	39.0	37.0	34.0	71.0	95.4	70.0	45.0	41.5
24	38.0	37.5	37.8	77.0	101.5	67.0	51.0	48.5
25	46.2	38.0	35.0	84.7	113.7	97.0	42.0	37.0
26	37.0	35.0	32.2	84.0	106.0	73.0	44.0	44.0
27	44.0	46.0	48.0	58.0	94.0	62.0	54.0	56.0
28	56.0	54.0	49.0	85.0	87.0	88.0	49.0	47.0
29	42.5	41.0	40.0	93.6	97.5	72.0	43.0	38.5
30	37.0	34.5	32.5	76.0	103.0	89.0	41.0	38.0
31	35.0	32.5	31.0	53.0	86.2	62.0	44.0	44.0
Hourly means.	45.68	43.35	42.61	76.97	97.95	81.38	49.85	44.20

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
November 1	45.0	35.0	33.0	78.0	82.0	79.0	40.5	31.8
2	31.5	30.0	34.0	48.0	54.3	45.3	37.5	36.0
3	38.0	37.0	37.0	41.0	49.0	45.0	40.5	42.5
4	43.5	45.0	46.0	55.6	83.7	61.3	46.5	40.0
5	39.0	40.0	40.0	67.0	65.0	76.0	30.7	26.5
6	24.5	24.0	22.0	68.0	93.0	62.7	39.0	43.0
7	45.5	48.0	48.2	54.0	58.5	58.0	54.0	55.0
8	55.1	56.0	56.0	60.8	82.0	65.0	59.0	57.0
9	60.0	59.5	59.0	66.0	78.0	79.5	79.0	65.0
10	64.0	65.0	65.0	60.2	109.0	92.0	48.5	40.0
11	46.0	44.0	37.0	80.5	101.0	86.5	40.5	40.0
12	35.0	36.0	38.0	50.0	90.7	52.2	43.5	34.0
13	34.0	35.3	30.1	74.0	87.0	44.5	35.6	33.0
14	28.0	25.0	28.5	45.0	71.7	70.8	26.0	24.0
15	23.0	24.0	26.5	39.3	49.0	67.0	42.0	39.0
16	36.0	31.0	29.0	83.7	93.0	78.0	33.0	32.0
17	37.0	36.8	38.5	50.2	61.5	55.4	44.5	44.0
18	45.5	46.8	48.0	54.5	56.0	52.0	47.0	45.0
19	44.0	42.5	43.0	42.5	84.0	70.0	33.0	35.0
20	35.0	36.0	37.0	41.0	45.5	45.0	43.0	43.5
21	44.0	43.5	43.0	46.0	49.0	46.8	44.0	43.5
22	37.0	34.0	32.5	39.2	44.3	34.5	29.4	28.2
23	24.0	22.0	19.0	59.5	76.0	60.5	26.0	17.0
24	15.4	14.0	18.0	37.0	83.0	70.0	27.0	23.0
25	21.0	20.0	19.0	63.0	86.0	67.0	34.0	29.5
26	28.0	27.5	27.0	47.5	61.0	53.8	41.5	39.0
27	39.0	35.0	29.0	71.0	99.0	61.0	38.0	36.0
28	32.0	36.0	40.0	64.0	72.3	74.0	49.5	48.0
29	47.0	46.0	46.8	70.3	97.5	93.2	54.2	48.7
30	51.0	49.0	47.6	60.9	105.6	95.4	54.5	48.8
Hourly means.	38.27	37.46	37.26	57.26	75.92	64.71	42.03	38.93

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
December 1	39.0	37.0	38.0	69.5	96.0	70.0	43.0	43.5
2	39.0	38.5	38.0	54.0	54.8	49.2	47.6	47.5
3	47.5	47.0	48.0	59.0	77.0	62.1	56.0	49.0
4	41.5	36.0	38.0	75.0	82.0	72.2	32.4	29.5
5	26.2	25.0	22.0	63.0	75.5	51.0	41.0	38.5
6	34.0	34.5	35.5	52.0	61.0	68.0	42.6	37.0
7	36.5	38.0	39.5	46.5	58.0	56.0	52.0	52.2
8	50.7	40.0	33.0	49.2	53.0	49.0	32.0	28.0
9	23.0	20.0	14.5	38.0	54.5	32.0	24.0	24.0
10	22.5	28.0	31.0	36.0	49.0	39.0	31.0	31.5
11	30.7	30.8	32.0	37.0	44.0	39.0	32.0	25.0
12	10.0	9.0	10.4	47.8	68.5	45.8	17.5	15.0
13	15.0	16.0	17.2	31.5	65.2	36.0	29.0	29.8
14	34.5	33.0	34.5	41.0	50.0	50.5	39.0	34.6
15	30.0	26.5	26.0	36.0	41.0	32.5	29.0	30.8
16	27.0	26.5	29.0	36.0	49.0	41.0	34.0	32.0
17	32.0	32.5	33.5	37.0	45.5	43.5	38.0	32.0
18	34.0	32.0	30.0	40.0	53.0	43.0	37.0	35.5
19	36.0	35.5	35.8	41.5	48.0	49.0	47.0	43.0
20	36.2	28.0	26.5	42.0	53.7	41.0	22.5	21.2
21	26.5	29.0	28.2	33.0	35.0	38.0	31.5	30.0
22	27.0	26.8	26.5	39.5	54.7	36.0	19.0	16.6
23	14.0	12.5	13.0	48.5	- -	39.0	19.0	19.0
24	22.0	24.0	26.0	38.0	62.0	58.0	28.0	23.0
25	20.0	18.0	17.0	40.5	69.5	61.0	38.0	37.0
26	38.0	36.5	35.5	36.8	52.0	49.0	37.0	36.0
27	36.0	35.5	35.0	42.0	49.5	46.0	41.0	37.9
28	41.8	42.0	42.0	48.2	90.1	59.5	47.0	41.0
29	38.0	34.0	32.0	35.0	41.5	39.0	28.0	24.0
30	25.0	26.0	24.0	54.0	71.3	60.0	35.0	34.0
31	33.0	32.5	32.0	36.0	39.5	31.0	26.0	32.4
Hourly means.	31.18	30.24	29.79	41.40	58.13	47.95	34.71	32.27

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Jan. 1	0	E.	1	K.	10	Jan. 2	0	NW.	3	Clear	0	Jan. 3	0	W. NW.	1	C. S.	3
	3	SW.	1	K.	10		3	NW.	2	Clear	0		3	NE.	1	C. K.	8
	6	W.	1	K.	10		6	NW.	2	Clear	0		6	NE.	1	C. S.	4
	9	NW.	4	C. K. S.	9		9	NW.	2	Clear	0		9	S.	1	C. K.	7
	Noon	NW.	4	C. K.	5		Noon	W. SW.	4	Clear	0		Noon	W.	1	C.	8
	3	NW.	5	C.	2		3	W. NW.	2	Clear	0		3	S.	1	C.	3
	6	NW.	5	Clear	0		6	W. SW.	1	C. S.	2		6	SW.	1	C. S.	3
	9	NW.	4	Clear	0		9	W.	1	C. S.	3		9	SW.	1	K.	10
Jan. 4	0	NE.	1	K.	10	Jan. 5	0	E.	1	N.	10	Jan. 6	0	NW.	1	S.	1
	3	N. NE.	1	K.	10		3	E.	1	N.	10		3	NW.	1	C. K.	8
	6	NE.	1	C. K.	10		6	SE.	1	N.	10		6	W.	1	K.	10
	9	NE.	1	C. K.	10		9	S.	1	N.	10		9	NW.	1	C. K.	10
	Noon	NE.	1	N.	10		Noon	W. SW.	1	N.	10		Noon	NW.	1	C. K.	10
	3	NE.	1	N.	10		3	NW.	3	C. K.	3		3	NW.	1	C. K.	10
	6	NE.	1	N.	10		6	NW.	3	Clear	0		6	W.	1	C. S.	4
	9	NE.	1	N.	10		9	NW.	1	Clear	0		9	NW.	1	S.	2
Jan. 7	0	NW.	2	Clear	0	Jan. 8	0	NE.	1	N.	10	Jan. 9	0	N. NW.	2	C.	
	3	NW.	2	C. S.	2		3	N.	1	N.	10		3	NW.	2	C. S.	4
	6	NW.	1	S.	1		6	N.	2	N.	10		6	NW.	1	C.	2
	9	N.	1	C.	10		9	NW.	1	N.	10		9	NW.	1	Clear	0
	Noon	N. NE.	1	C. K.	10		Noon	W. NW.	2		1		Noon	W.	2	Clear	0
	3	N.	1	C. K.	10		3	NW.	1	C. S.	4		3	NW.	2	Clear	0
	6	NE.	1	K.	10		6	NW.	2	C. S.	3		6	W.	1	Clear	0
	9	NE.	1	N.	10		9	NW.	2	C. S.	10		9	W.	1	Clear	0
Jan. 10	0	NE.	1	Hazy		Jan. 11	0	W.	1	C.	2	Jan. 12	0	W.	2	Hazy	0
	3	E.	1	Clear	0		3	W.	1	Clear	0		3	NW.	1	C. S.	2
	6	SE.	1	Clear	0		6	W.	1	Clear	0		6	NW.	1	C.	10
	9	SE.	1	S.	1		9	S.	1	Hazy			9	N.	1	S.	2
	Noon	SE.	1	S.	1		Noon	SE.	1	C.	1		Noon	S. SE.	1		
	3	SE.	1	Clear	0		3	S.	1	Hazy			3				
	6	SW.	1	C. S.	4		6	W.	1	Clear	0		6	SW.	1	C. S.	3
	9	W.	1	C. S.	2		9	NW.	1	Clear	0		9	SW.	1	C. S.	5
Jan. 13	0	SE.	1	C.	1	Jan. 14	0	NW.	1	C.	2	Jan. 15	0	E. NE.	1	N.	
	3	SE.	1	C	6		3	NW.	1	Clear	0		3	NE.	1	Fog	
	6	SE.	1	C. K.	10		6	N.	1	Haze			6	NE.	1	Fog	
	9	NW.	1	C. K.	10		9	NW.	1	C. S.	3		9	E. SE.	1	Fog	
	Noon	SE.	1	C. K.	10		Noon	S.	1	Haze			Noon	S.	1	Fog	
	3	W. NW.	1	K.	10		3	NE.	1	C. K.	6		3	N.	1	C. K.	
	6	S.	1	K.	10		6	E.	1	C. K. S.	3		6	NW.	1	C. S.	
	9	W.	1	K.	10		9	SE.	1	K.	10		9	NW.	1	C. K.	

REMARKS.

January 4. Commenced snowing at 9h. 35m. a. m. Amount, 3½ inches.
7. Commenced snowing at 8h. p. m.; ceased at 8h. a. m. on the 8th. Amount, 2⅛ inches.
15. Commenced raining at midnight.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1864.						1864.						1864.					
Jan. 16	0	NW.	1	C. S.	3	Jan. 17	0	NW.	1	Clear	0	Jan. 18	0	E. NE.	1	K.	10
	3	NW.	1	C. S.	3		3	SW.	1	C.	2		3	NE.	1	N.	10
	6	NW.	1	Clear	0		6	SE.	1	K.	8		6	NE.	1	N.	10
	9	W. NW.	1	Clear	0		9	S. SE.	1	K.	10		9	NE.	1	K.	10
	Noon	NW.	1	Clear	0		Noon	S.	1	C. K.	10		Noon	NE.	1	N.	10
	3	NW.	1	Clear	0		3	S. SE.	1	C. K.	10		3	NW.	1	K.	10
	6	SW.	1	Clear	0		6	SE.	1	C. S.	4		6	NW.	2	Fog	10
	9	NW.	1	Clear	0		0	NE.	1	K.	10		9	NW.	1	Fog	10
Jan. 19	0	N.	1	N.	10	Jan. 20	0	SW.	3	Clear	0	Jan. 21	0	E. SE.	1	K.	10
	3	NE.	1	N.	10		3	NW.	3	C. K.	8		3	NE.	1	K.	10
	6	NE.	1	K.	10		6	NW.	2	K.	10		6	NE.	1	C. K.	9
	9	S.	3	C. K.	9		9	W.	1	C. K.	7		9	NE.	1	C. K.	10
	Noon	S.	3	C. K.	9		Noon	W. NW.	3	C. S.	8		Noon	NE.	3	C. S.	2
	3	SW.	3	C. K.	10		3	W.	1	S.	1		3	E.	1	C. K.	8
	6	W.	6	C. K.	8		6	NW.	1	C. S.	2		6	E.	1	C. K.	10
	9	W.	7	N.	10		9	NE.	1	K.	10		9	NE.	1	K.	10
Jan. 22	0	NE.	1	K.	10	Jan. 23	0	N. NW.	1	C.	2	Jan. 24	0	S.	1	Clear	0
	3	N. NE.	1	K.	10		3	N.	1	Clear	0		3	S.	1	Clear	0
	6	E. SE.	1	K.	10		6	NW.	1	Clear	0		6	SE.	1	C. S.	6
	9	SE.	1	C. K.	10		9	E. SE.	1	C.	4		9	SE.	1	C.	4
	Noon	S.	1	C.	2		Noon	S.	1	C.	5		Noon	S.	1	C. K.	8
	3	SE.	1	S.	1		3	SE.	1	C.	4		3	S.	1	C.	4
	6	SE.	1	C. S.	3		6	SE.	1	C.	2		6	SW.	1	C. S.	4
	9	N.	1	C. K.	8		9	S.	1	Clear	0		9	SW.	1	C. S.	3
Jan. 25	0	SW.	1	C.	10	Jan. 26	0	NW.	1	K.	9	Jan. 27	0	W.	1	Clear	0
	3	S.	1	C. K.	8		3	S. E.	1	C. K.	10		3	NW.	1	Clear	0
	6	S. E.	1	C.	4		6	S. SE.	1	C. S.	2		6	N. W.	1	C.	2
	9	S. E.	1	C. K.	7		9	W.	1	Hazy			9	SE.	1	C.	7
	Noon	W.	2				Noon	NW.	6	Clear	0		Noon	SE.	1	Hazy	
	3	Calm	0				3	W.	4	Clear	0		3	S.	1	Clear	0
	6	E.	1	C.	3		6	NE.	1	C. S.	6		6	S.	1	Clear	0
	9	E.	1	C.	4		9	N. NW.	1	Clear	0		9	SE.	1	Clear	0
Jan. 28	0	NW.	1	Clear	0	Jan. 29	0	SW.	1	Clear	0	Jan. 30	0	NE.	1	C. K.	6
	3	N. NW.	1	Clear	0		3	W.	1	Clear	0		3	NE.	3	K.	10
	6	NW.		Clear	0		6	W.	1	Clear	0		6	NE.	2	Mist	10
	9	E.	1	Hazy			9	S. SE.	1	Hazy			9	NE.	1	Mist	10
	Noon	SE.	1	Hazy			Noon	NE.	1	Hazy			Noon	NE.	1	Mist	10
	3	S.	1	Hazy			3	NE.	1	Hazy			3	NE.	1	Mist	10
	6	S.	1	S.	1		6	E.	1	C. K.	4		6	NE.	1	Mist	10
	9	SW.	1	Clear	0		9	N.	1	C.	4		9	NE.	1	N.	10

REMARKS.

January 18. Commenced raining at 2h. 15m. a. m. Amount, 1.400 inch. Commenced snowing at 8h. 30m. p. m.
22. Wind very variable during the day. At 0h. 40m. a bright shooting star in the NE. Course S. by W. about 10°.
24. A lunar halo from 8h. p. m. till midnight.
26. Zodiacal light very bright from sunset till 7h. p. m.; apex reaching an altitude of about 40°.
27. A heavy white frost in the morning.
28. Zodiacal light appeared at 6h. 30m. p. m., and continued till 8h. 30m. p. m.; its apex reaching to within 5° of the Pleiades at 7h. 30m. At 8h. 15m. p. m. "Watson's Comet" was seen without the aid of a glass.
29. Shooting stars from NE. at 1h. a. m. Wet Bulb thermometer dry at 6h. p. m. Faint appearance of zodiacal light at 6h. p. m. through cirro-stratus clouds, lasting till 7h. 20m. p. m.
30. Commenced raining steadily at 8h. p. m.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1864.						1864.						1864.					
Jan. 31	0	NE.	1	N.	10												
	3	NE.	1	K.	10												
	6	NE.	1	K.	10												
	9	E.	1	Fog	10												
	Noon	NE.	1	K.	10												
	3	SE.	1	K.	10												
	6	E.	1	K.	10												
	9	E.	1	K.	10												
Feb. 1	0	E. SE.	2	K.	10	Feb. 2	0	NW.	1	Fog		Feb. 3	0	N.	1	C.	3
	3	E. SE.	1	Mist	10		3	NE.	1	K.	10		3	NW.	1	C. K.	6
	6	NE.	1	N.	10		6	E.	1	K.	10		6	NW.	4	K.	10
	9	E.	1	N.	10		9	E.	1	Fog			9	NW.	8	K.	10
	Noon	S.	1	N.	10		Noon	NE.	1	K.	10		Noon	NW.	6	K.	10
	3	S.	1	K.	10		3	SE.	1	C. K.	9		3	NW.	6	C. K.	6
	6	S.	1	K.	10		6	NE.	1	C. S.	3		6	NW.	3	S.	1
	9	SW.	1	K.	10		9	N.	1	K.	10		9	NW.	2	Clear	0
Feb. 4	0	NW.	2	Clear	0	Feb. 5	0	SE.	1	C. K.	4	Feb. 6	0	SE.	1	Hazy	
	3	W.	1	Clear	0		3			K.	3		3	NE.	1	C. K.	10
	6	SW.	1	Clear	0		6			S.	1		6	NW.	1	K.	10
	9	S.	1	C. K.	9		9	SE.	1	S.	2		9	N. NW.	1	Fog	
	Noon	S.	3	C. K.	9		Noon	SE.	1	Clear	0		Noon	E. SE.	1	K.	10
	3	S.	3	C. K.	3		3	S.	1	C.	2		3	N.	1	K.	10
	6	SE.	1	C. S.	2		6	SE.	1	C. K.	3		6	N. NE.	1	K.	10
	9	S.	1	C. K.	8		9	SE.	1	Hazy			9	NE.	1	K.	10
Feb. 7	0	NW.	2	N.	10	Feb. 8	0	S.	1	S.	1	Feb. 9	0	NW.	2	C. S.	1
	3	N.	1	N.	10		3	S.	1	Clear	0		3	NW.	1	S.	1
	6	N. NW.	2	K.	10		6	SW.	1	Clear	0		6	NW.	1	S.	1
	9	NW.	1	C. K.	10		9	SW.	1	C. S.	6		9	NW.	1	C. S.	4
	Noon	NW.	2	K.	10		Noon	W.	2	C. K.	9		Noon	W.	1	C. K.	8
	3	W.	2	C.	3		3	NW.	4	C. K.	7		3	W.	1	C.	3
	6	S.	1	K.	10		6	NW.	2	Clear	0		6	N.	1	C. S.	4
	9	SE.	1	C. K.	9		9	NW.	2	Clear	0		9	W.	1	Clear	0
Feb. 10	0	N.	1	Clear	0	Feb. 11	0	SW.	1	Clear	0	Feb. 12	0	S.	1	Clear	0
	3	NE.	1	Clear	0		3	N.	1	Clear	0		3	S.	1	Clear	0
	6	NE.	1	Clear	0		6	N.	1	S.	1		6	S.	1	C.	1
	9	SW.	1	Clear	0		9	E.	1	S.	1		9	S.	1	C.	1
	Noon	NW.	4	C. K.	3		Noon	S.	2	Clear	0		Noon	E.	1	C. K.	10
	3						3	S.	1	S.	1		3	NW.	1	C. K.	10
	6	N. NW.	3	Clear	0		6	S.	1	C. S.	3		6	NW.	1	C.	2
	9	NW.	1	Clear	0		9	S.	1	Clear	0		9	NW.	1	Clear	0

REMARKS.

February 1. A drizzling rain from 1h. a. m. to 8h. a. m.
2. Lightning and thunder in the N. from 9h. to 9h. 30m. p. m.
3. A shower of rain at 4h. 20m. a. m. Wind NW. Several shooting stars during the evening of the 6th mag.; course westward. Zodiacal light from 6h. to 8h. 40m. p. m.; apex reaching an altitude of 45° in the direction of the Pleiades.
4. The apex of the zodiacal light was visible at 7 p. m. above a thick cloud, reaching to within 15° of the Pleiades.
6. Showers of rain at 7h. 30m., 8h., 9h. 30m., and 11h. 50m. p. m.; amount of rain, 0. 168 inch.
8. Zodiacal light from 6h. to 7h. 30m. p. m., apex reaching an altitude of 50°.
10. Water frozen in cup attached to Wet Bulb thermometer, at 9h. a. m.
11. Zodiacal light at 6h. p. m. Brilliancy diminished.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Feb. 13	0	NW.	1	Clear	0	Feb. 14	0	S. SW.	1	C. S.	2	Feb. 15	0	S.	1	Clear	0
	3	NW.	1	Clear	0		3	SW.	1	C. K.	6		3	E. NE.	1	C. S.	3
	6	W. SW.	1	S.	1		6	S.	1	K.	10		6	E.	1	Hazy	
	9	S.	1	Clear	0		9	SE.	1	C. K.	2		9	S.	1	K.	10
	Noon	W.	1	Clear	0		Noon	NW.	5	C. K.	2		Noon	S.	1	K.	10
	3	W.	1	Clear	0		3	NW.	6	C. S.	1		3	S.	1	N.	10
	6	S.	1	Clear	0		6	NW.	4	S.	1		6	S.	1	N.	10
	9	S. SW.	1	Clear	0		9	NW.	3	Clear	0		9	S.	1	N.	10
Feb. 16	0	S.	1	K.	10	Feb. 17	0	W.	6	Clear	0	Feb. 18	0	NW.	2	Clear	0
	3	S.	1	K.	10		3	NW.	4	S.	1		3	W.	1	S.	1
	6	SW.	1	K.	10		6	NW.	3	S.	1		6	W.	1	C. S.	3
	9	S.	1	K.	10		9	NW.	5	C. K.	6		9	W. NW.	1	C.	7
	Noon	NW.	5	C. K.	2		Noon	NW.	6	C. K.	8		Noon	SW.	1	C. K.	7
	3	NW.	6	C. S.	1		3	NW.	6	C. K.	5		3	S. SW.	1	C. K.	9
	6	NW.	6	C.	1		6	W. NW.	4	C. K. S.	2		6	W. SW.	1	S.	1
	9	W.	6	C.	1		9	W. NW.	3	Clear	0		9	NW.	3	Clear	0
Feb. 19	0	NW.	2	C. K.	6	Feb. 20	0	S.	1	Clear	0	Feb. 21	0	N. E.	1	K.	10
	3	NW.	2	C. K.	2		3	SW.	1	Clear	0		3	S.	1	C.	10
	6	NW.	2	Clear	0		6	W.	1	Clear	0		6	NW.	1	C. S.	3
	9	NW.	1	Clear	0		9	S.	1	C.	7		9	S.	1	Hazy	
	Noon	W. SW.	2	Clear	0		Noon	S.	1	C.	2		Noon	S.	1	C.	10
	3	W.	1	Clear	0		3	S. SE.	1	C. K.	4		3	S.	1	C.	10
	6	SW.	1	Clear	0		6	SE.	1	C. K.	9		6	SE.	1	C. K.	10
	9	S.	1	Clear	1		9	E.	1	K.	10		9	E.	1	K.	10
Feb. 22	0	NE.	1	K.	10	Feb. 23	0	S.	1	C. K.	9	Feb. 24	0	S.	1	C. K.	10
	3	N.	1	C. K.	8		3	SW.	1	C. S.	2		3	S.	1	C. K.	8
	6	W.	1	C.	6		6	W. NW.	1	Clear	0		6	SW.	2	C.	2
	9	S.	1	C. K.	10		9	S. SE.	1	S.	1		9	W.	2	C. S.	2
	Noon	SE.	1	K.	10		Noon						Noon	W. NW.	4	C. K.	4
	3	SE.	1	C. K.	10		3	SW.	1	C. K.	6		3	W. NW.	4	C. K.	9
	6	S.	1	C. K.	10		6	S.	1	C. K.	8		6	W.	2	C. K.	4
	9	SW.	1	Hazy			9	S.	1	C. K.	10		9	SE.	1	Clear	0
Feb. 25	0	SE.	1	Clear	0	Feb. 26	0	W. NW.	1	C.	2	Feb. 27	0	NW.	2	Clear	0
	3	SE.	1	C.	3		3	W. NW.	1	C.	1		3	NW.	2	Clear	0
	6	SE.	1	K.	10		6	NW.	2	Clear	0		6	NW.	1	Clear	0
	9	SE.	1	K.	10		9	NW.	5	C. K.	4		9	NW.	1	S.	1
	Noon	SE.	1	C. K.	10		Noon	NW.	5	C. K.	6		Noon	W.	1	Hazy	2
	3	SE.	1	C. K.	10		3	NW.	5	K.	4		3	SE.	1	C. K.	6
	6	S. SE.	1	C. K.	8		6	NW.	4	S.	1		6	S.	1	C. K. S.	5
	9	W.	1	K.	10		9	NW.	3	Clear	0		9	S.	1	S.	1

REMARKS.

February 15. Commenced snowing at 2h. 30m. p. m.
17. Snowing lightly at intervals during the day.
20. Lunar halo from 10h. to 11h. p. m.
21. Lunar halo at midnight.
25. A shower of rain at 8h. 40m. p. m. Amount, 0. 015 inch.
26. Zodiacal light brilliant.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1864.						1864.						1864.					
Feb. 28	0	S.	1	C. K.	8	Feb. 29	0	S.	3	K.	10						
	3	SE.	1	C. S.	4		3	N. NW.	1	K.	10						
	6	SE.	1	C.	6		6	NW.	1	K.	10						
	9	S.	1	Hazy			9	NW.	2	K.	10						
	Noon	S.	1	Hazy			Noon	NW.	2	K.	10						
	3	S.	1	Hazy			3	N.	1	C. K.	10						
	6	S.	1	C. K.	10		6	N.	1	K.	10						
	9	S.	1	C. K.	10		9	S. SE.	1	K.	10						
Mar. 1	0	N. NW.	1	N.	10	Mar. 2	0	NW.	3	K.	9	Mar. 3	0	W.	1	Clear	0
	3	N.	1	N.	10		3	NW.	2	Clear	0		3	NW.	1	Clear	0
	6	N.	1	N.	10		6	W.	1	Clear	0		6	N.	1	S.	1
	9	E. NE.	1	N.	10		9	W.	1	Clear	0		9	N. NW.	1	Clear	0
	Noon	N. NE.	1	N.	10		Noon	W.	1	C.	1		Noon	N. NW.	1	Clear	0
	3	N.	1	N.	10		3	W.	1	C.	1		3	NW.	1	Clear	0
	6	NE.	1	N.	10		6	W.	1	Clear	0		6	SE.	1	Clear	0
	9	NE.	1	N.	10		9	NW.	1	Clear	0		9	SE.	1	Clear	0
Mar. 4	0	SE.	1	Clear	0	Mar. 5	0	S.	1	K.	10	Mar. 6	0	N. NW.	1	Clear	0
	3	S.	1	Clear	0		3	S.	1	K.	10		3	NW.	1	C. K.	4
	6	S.	1	C. S.	3		6	S.	1	K.	10		6	N. NW.	2	K.	10
	9	S.	1	C.	2		9	S.	1	N.	10		9	N.	1	K.	10
	Noon	S.	1	C.	4		Noon	S.	1	N.	10		Noon	NW.	1	K.	10
	3	S.	1	C. K.	8		3	NW.	3	N.	10		3	N. NW.	2	K.	10
	6	S.	1	C. K.	10		6	N. NW.	1	C. K.	6		6	NW.	3	C. K. S.	8
	9	W.	1	C. K.	7		9	W.	1	Clear	0		9	NW.	3	K.	10
Mar. 7	0	NW.	2	K.	10	Mar. 8	0	N. NW.	1	S.	1	Mar. 9	0	NW.	1	Clear	0
	3	NW.	4	C. S.	4		3	N.	1	K.	2		3	NW.	1	Hazy	
	6	NW.	4	S.	1		6	N.	1	K.	10		6	NW.	1	Hazy	
	9	NW.	3	Clear	0		9	N.	1	N.	10		9	NW.	1	C.	6
	Noon	NW.	4	C.	3		Noon	N.	1	N.	10		Noon	S.	1	Hazy	
	3	SW.	3	Clear	0		3	NE.	1	K.	10		3	S. SE.	1	Hazy	
	6	N. NW.	1	S.	1		6	NW.	1	C. K.	4		6	SE.	1	S.	1
	9	NW.	1	S.	1		9	W. SW.	1	C. K.	2		9	SW.	1	Clear	0
Mar. 10	0	W.	1	C.	1	Mar. 11	0	NW.	1	N.	10	Mar. 12	0	W.	1	C.	3
	3	N.	1	C. K.	6		3	N.	1	K.	10		3	W.	1	Clear	0
	6	NE.	1	K.	10		6	NE.	1	K.	10		6	SW.	1	Clear	0
	9	NE.	1	C. K.	10		9	E. SE.	1	Fog	10		9	W.	1	Clear	0
	Noon	NE.	1	C. K.	10		Noon	NE.	1	Fog	10		Noon	Calm	0	Clear	0
	3	NE.	2	C. K.	10		3	E.	1	Fog	10		3	S. SE.	2	Clear	0
	6	E. NE.	3	C. K.	10		6	N.	1	N.	10		6	Calm	0	Clear	0
	9	NE.	1	N.	10		9	W.	1	K.	10		9	SE.	1	Clear	0

REMARKS.

February 29. Snow and rain at 10h. 40m. p. m.

March 1. Ceased snowing at 11h. p. m. Amount of rain, 1.070 inch.

5. Commenced raining at 8h. 50m. a. m. Amount of rain, 0.060 inch. Lightning in the S. SE. at 7h. and 8h. p. m.

8. A light shower at 4h. a. m. Ceased raining at 2h. p. m.

9. A heavy white frost this morning.

11. Distant thunder at 3h. 30m. p. m. Lightning at 7h. p. m.; and at 8h. 15m. p. m. a heavy fall of rain, accompanied by sharp lightning and thunder.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1864.						1864.						1864.					
Mar. 13	0	SE.	1	C.	1	Mar. 14	0	W.	1	K.	10	Mar. 15	0	N.	1	K.	10
	3	E.	1	C. S.	4		3	NW.	3	K.	10		3	N.	1	N.	10
	6	E.	1	S.	1		6	NW.	4	C. S.	2		6	SW.	1	K.	10
	9	N. NW.	1	C. S.	1		9	NW.	3	K.	5		9	S. SW.	1	C. K.	8
	Noon	SE.	1	C. K.	2		Noon	NW.	3	K.	5		Noon	SW.	1	C. K.	9
	3	W. NW.	5	K. S.	5		3	NW.	2	C. K.	2		3	NW.	3	C. K.	10
	6	W. NW.	3	Clear	0		6	N. NW.	2	C. S.	7		6	NW.	3	C. S.	4
	9	W.	2	Clear	0		9	N.	1	C. K.	10		9	NW.	4	C. S.	4
Mar. 16	0	NW.	2	S.	1	Mar. 17	0	W. NW.	2	K.	10	Mar. 18	0	S.	1	K.	10
	3	NW.	2	S.	1		3	NW.	1	K.	10		3	S.	1	K.	10
	6	NW.	2	C. S.	3		6	NW.	1	K.	10		6	S.	1	S.	1
	9	NW.	2	S.	1		9	W. NW.	2	C. K.	2		9	S.	1	S.	1
	Noon	NW.	3	C. S.	6		Noon	SW.	1	C. K.	3		Noon	S.	5	C.	3
	3	NW.	3	C. K.	10		3	SE.	1	C. K.	4		3	S.	6	C.	2
	6	NW.	2	C. K. S.	9		6	S.	1	S.	1		6	S. SW.	3	C. K.	2
	9	NW.	3	K.	10		9	S. SE.	1	C.	6		9	W. NW.	1	K.	10
Mar. 19	0	NW.	1	K.	10	Mar. 20	0	N.	2	C. K.	9	Mar. 21	0	N.	1	C.	7
	3	N.	1	K.	10		3	N. NE.	1	C. K.	4		3	N.	1	C.	3
	6	NE.	1	K.	10		6	NE.	1	Clear	0		6	N.	1	C. S.	4
	9	NW.	1	C. K.	3		9	S.	1	Clear	0		9	N. NE.	2	C.	10
	Noon	N.	1	C. K. S.	2		Noon	S.	1	C.	2		Noon	N.	1	C. K.	7
	3	N. NE.	1	C. K.	7		3	SW.	1	C.	2		3	NW.	1	C. K.	8
	6	NE.	1	K.	10		6	NW.	3	C. S.	2		6	N.	1	Clear	0
	9	N.	1	K.	10		9	N.	3	C.	3		9	NE.	1	Clear	0
Mar. 22	0	NW.	1	Clear	0	Mar. 23	0	N.	2	N.	10	Mar. 24	0	NW.	1	C.	1
	3	N.	1	Clear	0		3	N. NW.	1	N.	10		3	NW.	1	Clear	0
	6	N.	2	C. S.	3		6	N. NW.	1	N.	10		6	NW.	3	Clear	0
	9	NE.	2	K.	10		9	NW.	1	C. K.	6		9	NW.	4	Clear	0
	Noon	NE.	2	K.	10		Noon	NW.	3	C. K.	6		Noon	NW.	2	Clear	0
	3	NE.	3	K.	10		3	NW.	1	C. K.	2		3	NW.	1	Clear	0
	6	N. NE.	3	N.	10		6	N. NW.	1	C.	2		6	SW.	1	Clear	0
	9	NE.	2	N.	10		9	NW.	1	C.	2		9	SE.	2	Clear	0
Mar. 25	0	S.	1	C.	10	Mar. 26	0	NE.	4	N.	10	Mar. 27	0	N. NW.	3	N.	10
	3	NW.	1	K.	10		3	N. NE.	3	N.	10		3	NW.	4	C. S.	8
	6	S.	1	K.	10		6	NW.	3	N.	10		6	NW.	1	Clear	0
	9	S.	1	C. K.	10		9	NW.	3	K.	10		9	N.	2	C. S.	2
	Noon	S.	1	K.	10		Noon	NW.	5	K.	10		Noon	N. NW.	1	C. K.	2
	3	NE.	1	K.	10		3	NW.	6	N.	10		3	NW.	2	C. K.	2
	6	NE.	1	N.	10		6	N. NW.	4	C. K.	10		6	N.	1	C. S.	2
	9	NE.	4	N.	10		9	NW.	4	N.	10		9	S.	1	Clear	0

REMARKS.

March 13. Strong wind and slight rain from 1h. 30m. to 4h. p. m.
15. Commenced snowing at 3h. a. m. A moderate shower of hail at 1h. 35m. p. m. from NW.
21. A large lunar halo at midnight.
22. Snowing lightly at 8 a. m. Commenced snowing at 5h. 30m. p. m. Depth of snow, 9 inches.
24. Lunar halo at midnight.
25. Snowing lightly at 0h. 25m. p. m. Raining at 1h. 30m. p. m. Amount of rain, 0.720 inch. Lunar halo at midnight.
26. Raining at midnight and continued till 6h. a. m.; light showers during the day. Amount, 0.110 inch.
27. Raining at midnight and continued till 2h. 30m. p. m.; light showers at intervals.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Mar. 28	0	N. NW.	1	C.	2	Mar. 29	0	SE.	2	K.	10	Mar. 30	0	NE.	5	N.	10
	3	NW.	1	Clear	0		3	NE.	1	K.	10		3	NE.	4	N.	10
	6	NW.	1	C. S.	3		6	NE.	1	K.	10		6	N. NW.	3	N.	10
	9	S.	1	C. K.	6		9	NE.	3	C. K.	9		9	NW.	3	N.	10
	Noon	E.	1	C.	2		Noon	NE.	4	C. K.	10		Noon	N. NW.	3	N.	10
	3	E. SE.	1	C. K.	6		3	E.	4	C. K.	10		3	NW.	2	N.	10
	6	E. SE.	1	C. K.	10		6	E.	6	N.	10		6	NW.	2	C. K.	10
	9	E. SE.	1	C. K.	10		9	E.	5	N.	10		9	NW.	2	K.	10
Mar. 31	0	NW.	3	K.	10												
	3	NW.	3	K.	10												
	6	NW.	2	K. S.	10												
	9	NW.	2	C. K. S.	9												
	Noon	NW.	3	C. K.	9												
	3	NW.	3	C. K.	9												
	6	NW.	2	K.	10												
	9	NW.	2	K.	10												
April 1	0	NW.	1	C. K.	4	April 2	0	N. NE.	3	N.	10	April 3	0	NW.	3	N.	10
	3	W.	1	K.	10		3	NE.	1	N.	10		3	NW.	3	N.	10
	6	W. NW.	1	C. K. S.	9		6	NE.	1	N.	10		6	N. NW.	2	C. K.	10
	9	E.	1	C. K.	8		9	N.	2	N.	10		9	NW.	3	C. K.	10
	Noon	SE.	1	K.	10		Noon	N. NW.	3	N.	10		Noon	NW.	3	C. K.	10
	3	SE.	1	N.	10		3	N. NW.	3	N.	10		3	NW.	2	C. K.	8
	6	NE.	1	N.	10		6	NW.	4	N.	10		6	N. NE.	1	C. K.	10
	9	NE.	2	N.	10		9	NW.	4	N.	10		9	N.	1	K.	10
April 4	0	E.	1	K.	10	April 5	0	NE.	2	N.	10	April 6	0	NW.	3	N.	10
	3	NE.	1	C. S.	6		3	NE.	2	N.	10		3	N. NW.	3	N.	10
	6	N. NE.	1	C.	8		6	NE.	3	N.	10		6	N. NW.	2	Mist	10
	9	E.	2	C. K.	10		9	NE.	3	N.	10		9	N.	1	C. K.	10
	Noon	E. SE.	1	C. K.	10		Noon	N. NE.	3	N.	10		Noon	N.	2	C. K.	9
	3	NE.	1	N.	10		3	N.	3	N.	10		3	N.	2	C. K.	7
	6	E.	1	N.	10		6	N.	3	N.	10		6	N.	1	C. S.	4
	9	NE.	2	N.	10		9	N. NW.	3	N.	10		9	NW.	2	Clear	0
April 7	0	W.	1	S.	1	April 8	0	NW.	1	Clear	0	April 9	0	SE.	1	K.	10
	3	NW.	2	Clear	0		3	W.	1	C.	3		3	SE.	1	K.	10
	6	NW.	1	C. K.	4		6	NE.	1	C. K. S.	8		6	E.	1	K.	10
	9	N.	1	C. S.	4		9	W.	1	C. K.	8		9	SE.	1	N.	10
	Noon	N.	1	C.	6		Noon	S.	1	C.	10		Noon	E.	1	N.	10
	3	NE.	1	C. K.	8		3	S.	1	C. K.	7		3	E.	1	N.	10
	6	SW.	1	C. S.	2		6	S.	1	C. K.	9		6	NE.	2	N.	10
	9	NW.	1	Clear	0		9	S.	1	C. K.	9		9	NE.	3	N.	10

REMARKS.

March 29. Commenced raining at 1h. p. m. Wind east and cold. A few flakes of snow at 2h. p. m. Amount of rain, 0.600 inch.
30. Heavy rain during the night; ceased at 4h. p. m. Commenced snowing at 5h. 45m. a. m. Amount of rain, 0.600 inch.

April 1. Raining at 2h. p. m. Amount, 0.150 inch. Raining at midnight. Amount, 1.040 inch.
3. Raining at midnight. Amount, 0.043 inch.
4. Commenced raining heavily at 2h. p. m. Wind E. SE. Amount, 0.345 inch.
5. Rain during the entire day. Amount, 1.780 inch.
6. Raining at midnight; continued till 6h. a. m. Amount, 0.346 inch.
9. A moderate shower of rain at 3h. 30m. a. m.; also at 5h. 35m. a. m. Commenced raining heavily at 8h. 20m. a. m. Amount of rain during the day, 1.420 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. April 10	0	NE.	2	N.	10	1864. April 11	0	NW.	1	K.	9	1864. April 12	0	NW.	1	Clear	0
	3	NE.	2	N.	10		3	NW.	1	K.	5		3	NW.	1	Clear	0
	6	W.	1	K.	10		6	N.	1	C. K.	9		6	NW.	1	C. S.	2
	9	NW.	1	C. K.	10		9	SW.	1	C. K.	9		9	SE.	1	C. K.	2
	Noon	W.	1	C. K.	8		Noon	NW.	1	C. K.	9		Noon	S.	2	C. K.	2
	3	W.	2	C. K.	8		3	NW.	2	C. K.	9		3	S.	3	C. K.	7
	6	NW.	2	C. K. S.	8		6	NW.	1	C. K.	9		6	S.	2	C. K.	10
	9	N.	1	C. S.	6		9	NW.	2	C. K.	3		9	S.	2	K.	10
April 13	0	S.	1	K.	10	April 14	0	SE.	1	C. K.	9	April 15	0	W.	1	C. K.	5
	3	S.	1	K.	10		3	SW.	1	K.	10		3	NW.	1	C.	2
	6	SW.	1	C. K. S.	7		6	W.	1	C. K. S.	4		6	NW.	1	C. K. S.	5
	9	NW.	3	C.	7		9	W.	1	C.	2		9	E. NE.	1	C. K.	8
	Noon	W. NW.	3	K. S.	9		Noon	W.	1	K.	9		Noon	E.	1	C. K.	9
	3	NW.	4	K. S.	9		3	W.	1	N.	10		3	E.	1	K.	10
	6	NE.	2	K. S.	7		6	W.	1	K.	10		6	NW.	1	C. K.	10
	9	SE.	1	C. K.	6		9	NW.	1	K.	10		9	W. SW.	1	N.	10
April 16	0	NW.	1	K.	10	April 17	0	NW.	1	C. K.	4	April 18	0	SW.	1	Clear	0
	3	W.	1	N.	10		3	NW.	2	K.	10		3	W.	1	Clear	0
	6	W.	1	N.	10		6	NW.	1	N.	10		6	W.	1	Clear	0
	9	W.	1	N.	10		9	NW.	2	K.	10		9	W. NW.	1	C. K.	1
	Noon	S.	1	N.	10		Noon	NW.	1	C. K.	8		Noon	NW.	1	C. K.	5
	3	N.	1	N.	10		3	NW.	1	C. K.	6		3	SW.	1	C. K.	6
	6	N. NW.	1	N.	10		6	NW.	1	C. K. S.	2		6	W.	1	C. S.	3
	9	N.	1	K.	10		9	NW.	1	Clear	0		9	W.	1	S.	2
April 19	0	NW.	1	C. K.	2	April 20	0	N. NW.	2	C.	1	April 21	0	NW.	1	C. K.	10
	3	NW.	1	C. K.	8		3	NW.	1	C. K.	6		3	NW.	1	C. K.	9
	6	NE.	2	C. S.	2		6	NW.	1	C. K.	9		6	NW.	2	C. K.	8
	9	N.	2	Clear	0		9	N.	1	C. K.	8		9	NW.	1	C. K.	8
	Noon	N.	1	C.	3		Noon	NW.	2	C. K.	10		Noon	NW.	2	N.	9
	3	N.	1	C. K.	6		3	N.	1	C. K.	9		3	W. NW.	1	C. K.	5
	6	N.	1	C. K.	7		6	NW.	1	K.	10		6	W. NW.	1	C. K.	2
	9	N.	2	C. K.	8		9	W.	1	K.	10		9	SE.	1	Clear	0
April 22	0	S.	1	Clear	0	April 23	0	E. NE.	1	C.	1	April 24	0	S.	4	C.	3
	3	SW.	1	Clear	0		3	SE.	1	C. K.	9		3	S.	2	C.	2
	6	S.	1	Clear	0		6	S.	1	C. K. S.	8		6	S. SE.	1	C.	5
	9	SE.	1	C.	3		9	S.	1	S.	2		9	S.	2	C. K.	10
	Noon	S.	1	C.	10		Noon	S.	4	C.	4		Noon	S.	2	C. K.	10
	3	S.	1	C. K.	8		3	S.	5	C.	3		3	S.	1	C. K.	10
	6	SE.	2	K.	10		6	S.	3	C.	8		6	SE.	1	K.	10
	9	SE.	1	K.	10		9	S. SW.	4	C.	1		9	SE.	1	K.	10

REMARKS.

April 10. Raining heavily at midnight, and continued till 3h. a. m. Amount of rain during the day, 0.900 inch.
15. Faint shooting stars from the east at 3h. 10m. a. m. Commenced raining at 7h. 20m. p. m. Amount, 0.020 inch.
16. Raining at 2h. a. m., and continued till 7h. 30m. p. m. Amount, 0.470 inch.
17. Raining lightly at 6h. a. m.
18. A white frost.
22. A light shower of rain at 8h. p. m.
23. A lunar halo at midnight.
24. A light shower of rain at 7h. 35m., and also rain at 9h. 20m. p. m., continuing till midnight. Amount, 0.210 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force					Direction.	Force.		
1864.						1864.						1864.					
April 25	0	E.	2	N.	10	April 26	0	W. NW.	4	K.	10	April 27	0	NW.	1	Clear	0
	3	E. SE.	2	N.	10		3	NW.	2	K.	10		3	SW.	1	S.	1
	6	SE.	3	K.	10		6	W.	1	C. K.	9		6	W.	1	C. K.	9
	9	SW.	1	C. K.	10		9	NW.	2	C. K.	10		9	W. NW.	3	C.	3
	Noon	W.	1	C.	2		Noon	NW.	2	C. K.	7		Noon	NW.	3	C. K.	4
	3	SE.	1	C. K.	3		3	NW.	3	C. K.	8		3	W.	3	C. K.	4
	6	SW.	1	C. S.	2		6	NW.	2	C. S.	3		6	W. NW.	3	C. K.	9
	9	S.	1	K.	7		9	NW.	1	Clear	0		9	N. NW.	4	K.	10
April 28	0	NW.	4	C. K.	3	April 29	0	NW.	2	Clear	0	April 30	0	S.	1	Clear	0
	3	NW.	3	C.	4		3	NW.	1	C. S.	3		3	SW.	1	Clear	0
	6	NW.	3	S.	1		6	N. NW.	2	C. S.	2		6	NE.	1	C.	4
	9	NW.	3	C.	7		9	N. NW.	1	Clear	0		9	S. SE.	1	C.	10
	Noon	NW.	4	C. K.	6		Noon	S.	1	Clear	0		Noon	S. SE.	1	C. K.	9
	3	N. NW.	2	C. K.	5		3	S. SE.	1	C.	1		3	SE.	1	N.	10
	6	NW.	2	Clear	0		6	S.	1	C.	1		6	S.	1	K.	10
	9	NW.	1	Clear	0		9	SW.	1	Clear	0		9	SE.	1	N.	10
May 1	0	S.	1	K.	9	May 2	0	W.	1	S.	1	May 3	0	SW.	2	K.	9
	3	SW.	1	K.	10		3	NW.	1	C. S.	3		3	W.	2	C. K.	3
	6	W. NW.	1	K.	10		6	N. NW.	1	C. K.	6		6	SW.	1	Clear	0
	9	NW.	1	K. S.	10		9	SE.	1	C. K.	9		9	W.	3	C.	4
	Noon	NW.	2	C. K.	6		Noon	S. SE.	3	C. K.	9		Noon	W.	3	C. K.	6
	3	NW.	1	C.	2		3	S. SE.	2	C. K.	5		3	W.	3	C. K.	7
	6	N. NW.	1	Clear	0		6	E.	1	K.	10		6	SW.	2	C. K.	9
	9	NW.	1	Clear	0		9	NW.	1	N.	10		9	W.	1	K.	2
May 4	0	W.	1	C. K.	5	May 5	0	NW.	1	Clear	0	May 6	0	SE.	1	Clear	0
	3	W. NW.	1	Clear	0		3	NW.	1	C.	1		3	SW.	1	Clear	0
	6	W. NW.	2	C. K.	4		6	NW.	1	Hazy			6	W.	1	C.	2
	9	NW.	3	C. K.	2		9	SE.	1	Hazy			9	SE.	1	C.	
	Noon	NW.	3	C. K.	2		Noon	S.	1	Hazy			Noon	SE.	1	C.	7
	3	NW.	2	C. K.	2		3	SE.	1	C.	4		3	SE.	1	C.	
	6	NW.	1	Clear	0		6	S.	1	C.			6	SE.	1	Hazy	
	9	N.	1	Clear	0		9	S. SE.	1	Clear	0		9	SW.	1	C.	2
May 7	0	SE.	1	C.	1	May 8	0	W.	1	Clear	0	May 9	0	SW.	1	Hazy	
	3	W.	1	C.			3	W.	1	Clear	0		3	W.	1	Hazy	
	6	W. NW.	1	C. K.	9		6						6	NW.	1	C. K.	8
	9	W.	1	C. K.	6		9	NW.	1	C. K.	8		9	S.	1	C.	4
	Noon	W.	1	C.	1		Noon	NW.	1	C. K.	10		Noon	S.	1	C. K.	5
	3	S.	1	C.	3		3	SW.	1	C. K.			3	S.	2	C.	3
	6	S.	1	C.			6	S.	1	Hazy			6	S.	2	N.	10
	9	S.	1	Hazy			9	SW.	1	C. K.			9	SW.	1	C.	

REMARKS.

April 25. Lightning in the north from 9h. to 11h. p. m. Shower of rain at 8h. a. m. A light shower at 11h. p. m. Amount of rain during the day, 0. 240 inch.

27. Raining at 0h. 15m. a. m.

30. Raining at 2h. p. m. Amount, 0. 056.

May 2. Commenced raining at 6h. 20m p. m., accompanied with lightning and thunder, and continued till 9h. 15m. p. m.

9. Lightning and thunder from 7h. 50m. p. m. till midnight. Light shower of rain at 9h. 25m. p. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
May 10	0	W.	1	Hazy		May 11	0	N.	1	K.	10	May 12	0	NW.	1	C. K.	9
	3	NW.	1	Hazy			3	W.	1	Hazy			3	NW.	1	K.	10
	6	S.	1	C. K.	6		6	N. NE.	1	C. K.	10		6	NW.	1	Mist	10
	9	SE.	1	C.			9	E.	3	C. K.	6		9	N.	2	K.	10
	Noon	SE.	1	C.	10		Noon	E.	3	C. K.	8		Noon	NE.	2	N.	10
	3	S.	3	C. K.	6		3	S.	2	C. K.	9		3	NE.	1	C. K.	10
	6	S.	2	C. K.	6		6	NW.	3	C. K.	9		6	SW.	1	N.	10
	9	S.	1	K.	10		9	NW.	1	K.	10		9	S.	1	C. K.	6
May 13	0	S.	1	N.	10	May 14	0	N. NE.	3	C. K.	10	May 15	0	SE.	2	K.	10
	3	SE.	1	N.	10		3	E.	2	N.	10		3	S. SE.	2	C. K.	3
	6	E.	3	C. K.	10		6	E.	1	K.	10		6	NE.	2	N.	10
	9	SE.	1	N.	10		9	E. SE.	2	C. K.	8		9	E.	2	C. K.	6
	Noon	E. SE.	2	K.	10		Noon	E.	3	C. K.	8		Noon	SE.	2	C. K.	5
	3	E.	2	K.	10		3	SE.	3	C. K.	7		3	E.	1	N.	10
	6	E. SE.	3	K.	10		6	E. SE.	4	C. K.	5		6	S.	2	N.	10
	9	SE.	3	K.	10		9	SE.	3	C. K.	9		9	SW.	1	C. K.	2
May 16	0	NE.	1	C. K.	10	May 17	0	NE.	1	C.	3	May 18	0	NW.	2	C.	10
	3	E.	1	K.	10		3	NE.	1	K.	10		3	NW.	1	C. K.	10
	6	NE.	1	K.	10		6	NE.	1	K.	10		6	NW.	1	C. K.	10
	9	NE.	1	C. K.	7		9	E.	1	K.	10		9	S.	1	Fog	
	Noon	SW.	1	N.	9		Noon	NE.	1	K.	10		Noon	S. SW.	1	C. K.	3
	3	E. SE.	1	C. K.	5		3	E.	1	K.	6		3	NW.	2	N.	10
	6	E.	1	C. K.	6		6	E. SE.	2	C. K.	10		6	N.	1	C. K.	10
	9	N.	1	Clear	0		9	SE.	1	C.	5		9	NW.	1	K.	10
May 19	0	N. NW.	2	C. K.	10	May 20	0	SW.	1	Clear	0	May 21	0	N.	1	Hazy	
	3	NW.	1	K.	10		3	NW.	1	Fog			3	S.	1	Hazy	
	6	NW.	1	C. K.	10		6	NW.	1	Fog			6	S.	1	Hazy	
	9	N.	1	Mist	10		9	SE.	1	Fog			9	S. SE.	1	Hazy	
	Noon	SW.	1	K.	7		Noon	S.	1	C. K.	6		Noon	W. SW.	1	Hazy	
	3	E.	1	C. K.	8		3	SE.	2	C. K.	4		3	SW.	1	C. K.	4
	6	N.	1	C. K.	6		6	NW.	1	C. K.	7		6	SW.	2	Hazy	
	9	NE.	1	C. K.	2		9	SW.	1	Hazy			9	SW.	2	Hazy	
May 22	0	W. SW.	1	C.	10	May 23	0	NE.	1	Clear	0	May 24	0	S. SE.	1	C. K.	10
	3	SW.	1	C. K.	10		3	NE.	1	Clear	0		3	S.	1	C. K.	9
	6	SW.	1	C. K.	8		6	E.	1	C. K.	10		6	S.	1	K.	10
	9	W.	2	C. K.	10		9	S.	1	C. K.	8		9	SW.	2	C. K.	10
	Noon	NW.	2	C. K.	10		Noon	S.	1	C. K.	4		Noon	SW.	2	C. K.	8
	3	NW.	2	C. K.	10		3	SE.	2	C. K.	5		3	SE.	2	C. K.	2
	6	W. NW.	1	C. K.	9		6	S. SE.	2	Hazy			6	S. SE.	2	C.	1
	9	NE.	1	C.	3		9	SE.	2	Hazy			9	SW.	1	N.	10

REMARKS.

May 11. Heavy thunder at 2h. 20m. p. m. Rain at 3h. 20m. p. m. Amount, 0.240 inch.
12. Rain during the afternoon. Shower of hail at 5h. p. m. Amount of rain, 1.250 inch.
13. Rain, with lightning and thunder, at 1h. a. m. Amount, 0.500 inch.
14. Light shower of rain at midnight; again at 1h. 25m. p. m. Amount, 0.090 inch.
15. Showers at intervals during the day. Amount, 0.170 inch.
16. A heavy shower of rain at 2h. p. m. Amount, 0.220 inch.
18. Rain at 2h. 30m. p. m. Amount, 0.200 inch.
19. Showers of rain at 3h. 25m. and 5h. 50m. p. m. Amount, 0.060 inch.
24. Shower of rain at 0h. 40m. a. m., and also at 8h. p. m. Amount of rain, 0.150 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
May 25	0	SE.	1	C. K.	8	May 26	0	SW.	1	C.	3	May 27	0	W.	1	N.	10
	3	SW.	1	Clear	0		3	NE.	1	K.	10		3	W.	1	K.	10
	6	SE.	1	C. K.	2		6	N.	1	N.	10		6	SW.	1	N.	10
	9	S. SE.	1	C.	3		9	SE.	1	N.	10		9	W.	3	C. K.	9
	Noon	S.	1	C.	1		Noon	W.	1	N.	10		Noon	NW.	3	C. K.	6
	3	S.	2	C.	2		3	W.	2	N.	10		3	W. NW.	3	C.	4
	6	SE.	3	C. K.	10		6	NW.	1	K.	10		6	W. NW.	3	C. K.	7
	9	SW.	2	C. K.	10		9	W.	1	K.	10		9	NW.	1	C. K.	3
May 28	0	NW.	3	C. K.	8	May 29	0	N. NE.	2	C. K.	10	May 30	0	SW.	1	C. K.	6
	3	NW.	2	C. S.	3		3	N.	2	C.	2		3	SW.	1	C. K.	8
	6	N. NW.	2	C.	2		6	NW.	2	Clear	0		6	S.	1	C.	3
	9	N.	2	C. K.	7		9	N.	2	Clear	0		9	S.	1	C. K.	10
	Noon	N.	2	C. K.	3		Noon	N. NW.	1	Clear	0		Noon	SW.	3	C.	10
	3	NW.	3	C. K.	10		3	SW.	2	Clear	0		3	S. SW.	3	Hazy	
	6	N.	1	K.	10		6	SW.	1	C.			6	S. SW.	1	Clear	0
	9	N.	1	K.	10		9	SW.	1	C. K.	10		9	W.	1	Clear	0
May 31	0	S. SW.	1	Clear	0												
	3	SW.	1	S.	1												
	6	SW.	1	Hazy													
	9	E.	1	Hazy													
	Noon	W.	1	Hazy													
	3	S.	2	Hazy													
	6	SW.	1	Hazy													
	9	SW.	2	S.	1												
June 1	0	W.	2	S.	1	June 2	0	S.	2	C.	2	June 3	0	N. NW.	2	C. K.	10
	3	NW.	1	Clear	0		3	W.	1	Clear	0		3	N.	1	C. K.	10
	6	S.	1	Clear	0		6	NW.	2	C. K.	8		6	N.	1	C.	3
	9	S. SE.	1	Hazy			9	N.	1	C. K.	7		9	N. NE.	2	C.	1
	Noon	W.	2	C. K.	3		Noon	N.	2	N.	10		Noon	E.	1	C. K.	6
	3	SW.	2	C. K.	2		3	N.	1	N.	10		3	E.	2	C. K.	5
	6	SW.	1	C. K.	4		6	N. NE.	1	C. K.	10		6	NE.	1	C.	3
	9	S.	1	C. K.	6		9	N.	1	C. K.	10		9	E.	1	Clear	0
June 4	0	N.	1	Clear	0	June 5	0	E.	2	K.	10	June 6	0	SE.	1	Clear	0
	3	NW.	1	C.	1		3	NE.	1	N.	10		3	W.	1	S.	1
	6	N.	1	C. K.	10		6	E. NE.	1	K.	10		6	SW.	1	C. S.	2
	9	E.	1	C. K.	8		9	NE.	1	C. K.	10		9	SW.	1	C.	2
	Noon	SE.	3	C. S.	6		Noon	S.	1	C. K.	9		Noon	SE.	3	C. S.	3
	3	SE.	1	C. S.	6		3	E. SE.	1	C. K.	10		3	S.	2	C.	2
	6	E.	2	C. K.	10		6	NE.	1	C. K.	10		6	NW.	3	N.	10
	9	E.	2	C. K.	3		9	SW.	1	K.	10		9	W.	1	C. K.	7

REMARKS.

May 25. Thunder at 3h. 50m. p. m. Light shower of rain at 8h. p. m., and intense lightning till 11h. p. m.
26. Rain at 5h. 20m. a. m. Amount, 0.430 inch.
27. Moderate shower of rain at 6h. 45m. p. m. Amount, 0.080 inch.
28. Rain at 4h. 30m. p. m.

June 1. Lightning at 10h. and 11h. p. m.
2. Light showers of rain at 7h. 40m. a. m., 11h. 10m. a. m., and at noon. Amount, 0.015 inch.
5. Light shower of rain at 3h. a. m.
6. Thunder at 3h. 30m. p. m. Heavy rain and high wind at 5h. 20m. p. m. Amount, 0.620 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
June 7	0	NW.	3	C. K.	6	June 8	0	NW.	1	C.	2	June 9	0	S.	2	C. K.	10
	3	N.	2	C. K.	8		3	N.	1	C.	4		3	S.	2	K.	10
	6	NW.	2	C. K.	10		6	S.	1	C. K.	10		6	S.	1	K.	10
	9	N. NE.	2	C. K.	10		9	S.	2	C. K.	8		9	SW.	2	C. K.	9
	Noon	NE.	2	C. K.	9		Noon	S.	3	C. K.	10		Noon	SW.	3	C. K.	4
	3	E.	2	Hazy			3	S.	2	C. K.	8		3	SW.	3	C. K.	7
	6	SE.	2	Hazy			6	S.	2	C. K.	7		6	SW.	2	C. K.	8
	9	SE.	1	C.	2		9	S.	2	K.	10		9	W.	1	K.	10
June 10	0	SW.	1	C.	4	June 11	0	N.	1	C. K.	8	June 12	0	NE.	2	C. K.	8
	3	W.	2	N.	10		3	NW.	1	C. K.	3		3	N.	1	C. K.	7
	6	NW.	3	C.	3		6	NE.	2	C. K.	8		6	N. NW.	2	C. S.	2
	9	NW.	4	S.	2		9	NE.	2	C. K.	6		9	NE.	2	C.	1
	Noon	NW.	3	C.	1		Noon	NE.	1	C. K.	3		Noon	N.	3	C. K.	4
	3	NW.	2	C.	1		3	N.	2	C. K.	7		3	NE.	2	C. K.	6
	6	N.	1	C.	4		6	NE.	2	C. K.	9		6	N.	1	C. K.	6
	9	N.	1	C. K.	4		9	NE.	2	C. K.	9		9	N.	1	C. S.	2
June 13	0	NW.	1	Clear	0	June 14	0	N.	1	Clear	0	June 15	0	W.	1	C. K.	8
	3	N. NW.	1	Clear	0		3	N.	1	C. K.	4		3	NW.	2	C.	1
	6	N.	1	Clear	0		6	NW.	2	C. K.	7		6	NW.	1	Clear	0
	9	N.	1	Hazy			9	NW.	1	K.	10		9	SE.	1	Hazy	
	Noon	E. NE.	2	C. K.	4		Noon	N. NW.	1	C. K.	10		Noon	SW.	1	C.	2
	3	E. NE.	1	C. K.	6		3	NE.	1	C. K.	7		3	SW.	1	C. K.	2
	6	E.	1	C. K.	7		6	NE.	1	C. S.	5		6	N.	1	C. K.	4
	9	N.	1	C.	1		9	NW.	1	C.	1		9	NW.	1	C.	3
June 16	0	NW.	1	Clear	0	June 17	0	NW.	2	Hazy		June 18	0	E.	1	Hazy	
	3	NW.	2	Hazy			3	NW.	1	Hazy			3	E.	1	C.	4
	6	W.	2	Hazy			6	NW.	1	Hazy			6	N.	1	Hazy	
	9	NW.	4	Hazy			9	N. NW.	1	Hazy			9	E.	1	Hazy	
	Noon	NW.	4	Hazy			Noon	N. NW.	2	C. K.	2		Noon	E. NE.	2	C.	4
	3	NW.	3	Hazy			3	N.	2	C. K.	4		3	E.	2	C.	3
	6	NW.	2	Hazy			6	E. NE.	2	Hazy			6	E.	1	C.	6
	9	NW.	1	Clear	0		9	E.	2	Hazy			9	NE.	1	C.	
June 19	0	N. NE.	1	C. K.	1	June 20	0	NW.	1	C. S.	6	June 21	0	NW.	1	Clear	0
	3	NE.	1	C. K.	9		3	NW.	1	C. K.	8		3	NW.	1	C.	4
	6	NE.	1	K.	10		6	W.	1	C. K.	10		6	W. NW.	1	Clear	0
	9	N. NE.	1	C. K.	10		9	E.	1	C. K.	9		9	E.	1	Hazy	
	Noon	S. SW.	1	C. K.	10		Noon	S.	1	C. K.	6		Noon	SE.	2	Hazy	
	3	SW.	1	C. K.	10		3	S.	1	C. K.	7		3	E.	2	C. K.	3
	6	E.	1	C. K.	10		6	S.	1	C. K.	4		6	E.	3	Hazy	
	9	W.	1	C. K.	8		9	S.	1	Clear	0		9	E.	2	Clear	0

REMARKS.

June 9. Raining lightly at 4h., 5h. 38m., and 6h. 10m. p. m. Amount, 0. 084 inch.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1864. June 22	0	E.	2	C.	3	1864. June 23	0	S. SW.	1	Hazy		1864. June 24	0	W.	1	C.	6
	3	E.	1	C.	4		3	SW.	1	Hazy			3	SW.	1	C.	3
	6	NE.	1	C. K.	2		6	NW.	1	C.	2		6	NW.	2	C.	10
	9	SE.	1	C.	4		9	W. NW.	2	Hazy			9	W.	1	C.	3
	Noon	S.	1	C.	3		Noon	NW.	3	C.	10		Noon	SW.	1	Hazy	
	3	S.	1	C.	4		3	NW.	3	C. K.	3		3	NW.	1	Hazy	
	6	SW.	1	C.	4		6	NW.	2	C.	10		6	W. NW.	1	Hazy	
	9	SW.	1	C.	3		9	NW.	1	C. K.	6		9	W.	1	Hazy	
June 25	0	W.	1	Hazy		June 26	0	W.	1	Clear	0	June 27	0	NW.	1	C. K.	1
	3	W. NW.	1	Hazy			3	S.	1	Clear	0		3	W.	1	C. S.	3
	6	NW.	2	Hazy			6	S. SW.	1	Clear	0		6	SW.	1	C. S.	2
	9	NW.	2	Hazy			9	W. NW.	2	Clear	0		9	NW.	3	C. K.	8
	Noon	NW.	3	C. K.	1		Noon	W.	3	C. K.	4		Noon	NW.	3	C. K.	6
	3	NW.	3	C. K.	4		3	W.	2	C. K.	6		3	N.	3	C. K.	7
	6	NW.	2	Clear	0		6	W.	2	C. K.	10		6	N. NE.	4	K.	10
	9	W.	1	Clear	0		9	W.	1	C. K.	3		9	NE.	2	C.	6
June 28	0	NW.	1	Clear	0	June 29	0	NW.	1	Clear	0	June 30	0	SE.	2	C.	2
	3	N.	2	C.	6		3	NW.	2	Clear	0		3	SE.	2	C.	4
	6	N.	2	C. K.	3		6	S.	1	Clear	0		6	S.	2	C. K.	8
	9	NE.	2	C.	1		9	S.	2	Hazy			9	SW.	2	C.	6
	Noon	E.	1	C.	1		Noon	SW.	3	Hazy			Noon	S.	2	C. K.	8
	3	SE.	1	C.	1		3	S.	3	C. K.	10		3	E.	3	K.	10
	6	E.	1	Clear	0		6	S. SE.	3	C. K.	10		6	SE.	2	C.	4
	9	S. SW.	1	Clear	0		9	S.	3	C.	4		9	W.	1	C.	3
July 1	0	W.	1	C. K.	8	July 2	0	Calm	0	K.	10	July 3	0	NW.	3	C. S.	2
	3	SW.	1	C. K.	7		3	S.	1	K.	10		3	N.	2	C. K.	6
	6	W.	1	N.	10		6	N. NE.	1	C. K.	7		6	NW.	2	C.	4
	9	SW.	1	C.	4		9	SE.	1	C.	6		9	NW.	2	C. K.	3
	Noon	S.	1	C. K.	9		Noon	SW.	2	C. K.	8		Noon	W.	1	C. K.	9
	3	SE.	1	C. K.	7		3	NW.	2	C. K.	8		3	W.	2	C. K.	2
	6	S.	1	C. K.	6		6	SE.	2	C. K.	7		6	S.	1	C. K.	3
	9	Calm	0	C. K.	8		9	NW.	2	C. S.	1		9	W.	1	C. K.	6
July 4	0	NW.	1	C. K.	8	July 5	0	SW.	1	Clear	0	July 6	0	N.	1	Clear	0
	3	NW.	2	K.	10		3	W.	1	Clear	0		3	N.	1	C.	4
	6	N.	2	C. K.	7		6	NW.	1	Clear	0		6	S.	1	C. K.	6
	9	N. NE.	3	C.	4		9	W.	1	Clear	0		9	SE.	2	C. K.	6
	Noon	N.	2	C. K.	8		Noon	NE.	1	C.	2		Noon	S.	1	C. K.	5
	3	NW.	1	C.	10		3	SE.	2	Hazy			3	S.	2	C. K.	4
	6	W.	1	C.	3		6	E. SE.	2	Hazy			6	S.	2	C.	3
	9	SW.	1	Clear	0		9	N.	1	C.	1		9	S.	1	C. S.	2

REMARKS.

June 26. Thunder at 2h. 30m. p. m. Light shower of rain at 3h. 10m. p. m.
27. Light shower of rain, with lightning and thunder, at 2h. 30m. p. m.
30. Light showers of rain at 11h. 40m. a. m. and 3h. p. m. Amount, 0. 080 inch.

July 1. Commenced raining at 5h. a. m. Rainbow in the morning. Lightning in the east and south during the night. Rain during the day, 0. 070 inch.
2. Thunder at 0h. 45m. p. m. Rain and heavy wind from 1h. 45m. to 2h. 10m. p. m. Amount, 0. 145 inch.
3. A few drops of rain at 2h. 20m. p. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
July 7	0	SW.	1	C. K.	4	July 8	0	Calm	0	K.	10	July 9	0	SE.	1	C. S.	2
	3	SW.	1	Clear	0		3	NW.	1	C.	4		3	E.	1	C. K.	9
	6	SW.	1	Clear	0		6	NW.	1	C. K.	6		6	NE.	1	C. K.	6
	9	S.	1	C. K.	10		9	NW.	3	C.	2		9	S. SE.	1	C. K.	7
	Noon	S. SE.	3	C. K.	9		Noon	NW.	4	C. K.	7		Noon	SE.	2	C. K.	8
	3	SW.	2	C. K.	9		3	NW.	3	C. K.	9		3	SE.	3	C. K.	9
	6	SW.	1	C. K.	7		6	NE.	2	C. K.	6		6	S. SE.	3	C. K.	7
	9	NW.	1	C.	3		9	E.	3	C. S.	2		9	SE.	2	Clear	0
July 10	0	SE.	1	C.	2	July 11	0	S.	1	C. K.	4	July 12	0	SW.	1	Clear	0
	3	SW.	1	C. K.	6		3	S.	1	C. K.	6		3	SW.	1	C.	4
	6	S.	2	C. K.	8		6	S.	1	C. K. S.	8		6	W.	1	C. K.	3
	9	SE.	2	C.	3		9	S.	1	C. K.	9		9	NW.	1	C.	1
	Noon	S.	3	C.	2		Noon	N.	1	C. K.	8		Noon	N.	1	C. K.	7
	3	S.	3	C. K.	6		3	N.	1	N.	10		3	N.	1	C. K.	8
	6	S.	2	C. K.	5		6	SW.	2	C. K.	9		6	E.	1	C.	2
	9	S.	2	C. K.	7		9	SW.	1	C. S.	5		9	S.	1	C. K.	3
July 13	0	NW.	1	C. K.	6	July 14	0	N.	1	C. K.	6	July 15	0	NE.	1	C. K.	8
	3	NW.	3	C. K.	9		3	N.	1	Clear	0		3	N.	1	C.	1
	6	N.	2	C.	4		6	N.	1	C. K.	4		6	NE.	1	C.	4
	9	NE.	2	C. K.	9		9	NE.	1	C. S.	4		9	NE.	2	C.	2
	Noon	NE.	2	C. K.	3		Noon	E. SE.	2	C. K.	4		Noon	NE.	3	C. K.	3
	3	E.	3	C. K.	6		3	E.	2	C. K.	4		3	N. NE.	3	C. K.	6
	6	E.	2	C. K.	6		6	SE.	1	C.	1		6	NE.	3	C. K.	2
	9	E.	1	S.	1		9	SE.	1	C.	2		9	NE.	1	Clear	0
July 16	0	NE.	1	Clear	0	July 17	0	NE.	1	C.	2	July 18	0	NE.	1	Clear	0
	3	NE.	1	Clear	0		3	NW.	2	Clear	0		3	N.	1	Clear	0
	6	N.	2	Clear	0		6	N.	1	Clear	0		6	N.	1	C. K.	6
	9	NE.	2	Hazy			9	S.	1	Hazy			9	NE.	1	C.	4
	Noon	NE.	2	Hazy			Noon	SW.	1	Hazy			Noon	NE.	2	C.	6
	3	NE.	1	Hazy			3	E. SE.	2	Hazy			3	E.	2	C. K.	6
	6	NE.	1	Hazy			6	E. SE.	1	C.	1		6	E.	2	C. K.	9
	9	SW.	1	C.	1		9	SE.	1	C.	1		9	E.	1	C. K.	8
July 19	0	E. NE.	1	C. K.	3	July 20	0	S.	1	C. K.	4	July 21	0	SW.	1	C. K.	3
	3	N. NE.	1	C. K.	6		3	SW.	1	K.	10		3	NW.	1	C.	3
	6	NE.	1	C. K.	8		6	SW.	1	C. K.	10		6	NW.	3	C.	5
	9	NE.	1	C. K.	5		9	S.	1	C. K.	6		9	NW.	2	C. K.	7
	Noon	SE.	2	C. K.	6		Noon	SE.	2	C.	1		Noon	N. NW.	3	Hazy	
	3	SE.	1	C. K.	7		3	SE.	1	C. K.	4		3	W. NW.	3	Hazy	
	6	SW.	2	C. K.	3		6	W.	2	K.	9		6	N. NW.	2	Hazy	
	9	SE.	1	C.	6		9	E. SE.	1	N.	9		9	N.	1	C.	4

REMARKS.

July 7. Rain, with lightning and thunder, at 7h. 20m. p. m.; continued during the first part of the night. Amount, 0.020 inch.
8. At 9h. p. m. a bright meteor appeared moving from E. NE., leaving a train of light in its track about 15° in length.
11. A shower of rain at 11h. 45m. a. m. Amount, 0.122 inch.
12. A shower of rain at 3h. p. m. Amount, 0.335 inch. Many shooting stars.
13. A large number of shooting stars.
19. The Aurora Borealis very brilliant from 9h. 30m. to 11h. p. m. Streamers reaching nearly to the zenith.
20. Rain, with thunder and lightning, at 7h. 30m. p. m. Amount, 0.012 inch.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1864.						1864.						1864.					
July 22	0	N.	1	C.	4	July 23	0	NW.	1	Hazy		July 24	0	W.	1	Hazy	
	3	NW.	1	Hazy			3	NW.	1	Hazy			3	NW.	1	Hazy	
	6	NW.	1	Hazy			6	N.	1	Hazy			6	NW.	1	Hazy	
	9	NW.	1	Hazy			9	SW.	1	Hazy			9	NW.	1	Hazy	
	Noon	NW.	2	Hazy			Noon	SE.	1	Hazy			Noon	E.	1	C.	6
	3	N.	2	C.	4		3	NE.	1	Hazy			3	E.	1	C.	6
	6	N.	1	C.	6		6	NE.	1	C. K.	10		6	E.	1	K.	10
	9	N.	1	Hazy			9	SE.	1	Hazy			9	NE.	1	K.	10
July 25	0	N.	1	K.	10	July 26	0	NW.	1	Clear	0	July 27	0	NW.	1	Hazy	
	3	N. NE.	2	N.	10		3	NW.	2	C.	3		3	NW.	1	Hazy	
	6	NE.	3	N.	10		6	SE.	1	C. K.	4		6	W.	1	Hazy	
	9	NW.	3	N.	10		9	SW.	1	C.	2		9	SE.	1	Hazy	
	Noon	W.	4	K.	10		Noon	W.	1	Hazy			Noon	W.	1	C.	10
	3	SW.	3	C. K.	9		3	SW.	1	Hazy			3	W. NW.	1	C. K.	10
	6	SW.	2	C. K.	9		6	SW.	1	Hazy			6	SW.	1	C. K.	10
	9	NW.	1	Clear	0		9	SW.	1	Hazy			9	S.	1	C.	4
July 28	0	W.	1	C.	4	July 29	0	SW.	1	C.	2	July 30	0	NW.	1	Clear	0
	3	SW.	1	K.	8		3	S.	1	Hazy			3	NW.	1	Clear	0
	6	SW.	1	C. K.	8		6	SW.	1	Hazy			6	N. NE.	1	C. K.	7
	9	S. E	1	Hazy			9	W.	1	C. K.	7		9	W.	1	C. K.	6
	Noon	SW.	1	C.	3		Noon	W.	3	C. K.	3		Noon	W. NW.	2	C. K.	7
	3	SW.	1	C. K.	4		3	W. NW.	3	C. K.	3		3	NW.	2	C.	2
	6	SW.	1	C.	2		6	NW.	2	C. K.	4		6	W.	1	C.	4
	9	SW.	1	C.	4		9	NW.	1	C.	2		9	W.	1	Clear.	0
July 31	0	NW.	1	C. S.	2												
	3	W.	1	Clear	0												
	6	W.	1	C. S.	4												
	9	E. SE.	1	Hazy													
	Noon	SW.	1	Hazy													
	3	S.	1	Hazy													
	6	SW.	1	Hazy													
	9	W.	1	C.	4												
Aug. 1	0	SW.	1	K.	10	Aug. 2	0	W.	1	S.	1	Aug. 3	0	N.	1	C.	3
	3	SW.	1	C. S.	4		3	NW.	1	C.	2		3	N.	1	S.	2
	6	S.	1	C. K.	9		6	S.	1	C. S.	4		6	NW.	3	C. K.	8
	9	S.	1	C. K.	6		9	S. SW.	1	C. K.	10		9	NW.	2	C. S.	4
	Noon	S. SE.	2	C.	7		Noon	S. SW.	1	C. K.	8		Noon	W. NW.	3	C. K.	6
	3	S.	3	C. K.	3		3	S. SE.	1	C. K.	4		3	NW.	4	C. K.	8
	6	S.	2	C. K.	8		6	SW.	3	N.	10		6	NW.	4	C. K.	2
	9	SW.	1	C. K.	3		9	Calm	0	K.	9		9	NW.	2	C. S.	1

REMARKS.

July 24. Raining lightly at 10h. 15m. p. m.
25. Commenced raining at 1h. 20m. a. m. Amount, 0.650 inch.
29. Several mall smeteors from 1h. to 3h. a. m.; course, northward. Lightning from 8h. to 12h. p. m.
30. Lightning at 1h. a. m.

August 2. Light showers of rain at noon and 6h. p. m. Lightning during the first part of the night. Amount of rain, 0. 074 inch.
3. Several meteors appeared from 8h. to 10h. p. m.; some of the 2d magnitude. General direction of course, south.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Aug. 4	0	NW.	2	C. K.	3	Aug. 5	0	NW.	1	S.	1	Aug. 6	0	NE.	1	C. K.	10
	3	NW.	2	C. K.	10		3	NW.	1	Clear	0		3	NE.	1	K.	10
	6	W.	1	C. K.	9		6	NW.	1	Hazy			6	N.	1	N.	10
	9	NW.	3	C. K.	8		9	N.	1	C.	2		9	NE.	2	C. K.	7
	Noon	NW.	2	C. K.	5		Noon	W.	1	C. K.	4		Noon	E.	1	C. K.	10
	3	W.	2	C. K.	3		3	W.	1	C. K.	7		3	NE.	1	N.	10
	6	NW.	2	C. K.	3		6	E.	3	C. K.	4		6	E. NE.	1	C. K.	3
	9	SW.	1	S.	2		9	NE.	3	C. S.	2		9	SE.	1	C.	1
Aug. 7	0	SE.	1	K.	10	Aug. 8	0	NW.	2	S.	2	Aug. 9	0	NW.	1	Hazy	
	3	W.	1	K.	10		3	NW.	1	Clear	1		3	NW.	1	Hazy	
	6	NW.	1	C. K.	10		6	NW.	1	C.	8		6	NW.	1	Hazy	
	9	NW.	1	C.	6		9	N.	1	Hazy			9	SW.	1	Hazy	
	Noon	NW.	2	C. K.	10		Noon	S.	1	Hazy			Noon	W.	1	Hazy	
	3	W.	1	C. K.	8		3	S.	1	Hazy			3	SW.	1	Hazy	
	6	W.	1	C. K.	9		6	S.	1	Hazy			6	SW.	1	Hazy	
	9	NW.	2	Clear	0		9	SW.	1	Hazy			9	S. SW.	1	Hazy	
Aug. 10	0	S.	1	Hazy		Aug. 11	0	SW.	1	Hazy		Aug. 12	0	NE.	1	C.	3
	3	S. SW.	1	Hazy			3	SW.	1	Hazy			3	N.	1	C.	1
	6	S.	1	Hazy			6	W.	1	Hazy			6	NE.	1	S.	1
	9	S. SW.	1	Hazy			9	W.	1	Hazy			9	NE.	1	C.	4
	Noon	SW.	1	Hazy			Noon	SW.	1	C.	1		Noon	S.	1	C.	7
	3	SE.	2	C. K.	3		3	S.	2	C. K.	4		3	S. SE.	2	Hazy	
	6	S.	1	C.	2		6	W.	1	C. K.	5		6	S.	1	K.	2
	9	SW.	1	C.	1		9	N.	1	C. K.	10		9	E.	1	S.	1
Aug. 13	0	E.	1	C.	2	Aug. 14	0	SW.	1	C. K.	9	Aug. 15	0	N.	1	C. K.	8
	3	N.	1	C.	3		3	NW.	1	C. K.	5		3	N.	1	C. S.	4
	6	S.	1	C.	1		6	W.	1	C. S.	4		6	N.	1	C. K. S.	3
	9	S.	1	S.	1		9	NW.	1	C. K.	8		9	E.	1	C. K.	9
	Noon	SE.	1	C.	1		Noon	NW.	1	C. K.	4		Noon	S.	1	C. K.	10
	3	SW.	1	C. K.	3		3	S.	1	C. K.	10		3	E.	2	C. K.	9
	6	S.	1	C. K.	8		6	N.	1	C. K.	8		6	E.	2	C. K.	5
	9	E. SE.	1	C. K.	8		9	W.	1	C. K.	9		9	NE.	1	C. S.	1
Aug. 16	0	NE.	1	K.	10	Aug. 17	0	S. SE.	1	C. K.	8	Aug. 18	0	NW.	1	C. K.	9
	3	NE.	2	C. K.	4		3	S.	1	C. K.	10		3	NW.	1	C. K.	9
	6	NE.	2	C. K.	9		6	S. SW.	1	C. K.	6		6	N. NE.	2	C. K.	10
	9	E. SE.	2	C. K.	9		9	SW.	1	C. K.	3		9	N. NE.	2	N.	10
	Noon	SE.	2	C. K.	9		Noon	SW.	2	C. K.	7		Noon	N.	1	C. K.	10
	3	SE.		C. K.	8		3	N. NW.	1	C. K.	8		3	N.	1	C. K.	10
	6	E. SE.	1	C. K.	9		6	SE.	1	C. K.	10		6	N.	1	C. K.	10
	9	NE.	1	C. K.	10		9	W.	1	C. K.	10		9	N.	1	K.	10

REMARKS.

August 6. Lightning during the night. Commenced raining at 4h. a. m. Amount of rain, 0.586 inch.
7. Rain at 0h. 30m. a. m., with sharp lightning and thunder. Amount of rain, 0.100 inch. Several meteors during the night.
10. Numerous meteors during the night. Some very brilliant.
11. A light shower of rain at 8h. p. m., with lightning and thunder. Amount of rain, 0.006 inch.
12. Meteors very numerous after midnight; course, S. SW.
13. A moderate shower of rain, with sharp lightning and thunder, at 7h. p. m. Amount of rain, 0.124 inch.
14. Thunder at 3h. p. m. Rain, with lightning and thunder, at 3h. 30m. p. m. Lightning during the night.
15. Light shower of rain at 4h. p. m. Lightning in SW. during the evening. Amount of rain, 0.004 inch.
16. Light showers at 2h., 3h., and 6h. p. m. Lightning in the south and east during the evening. Amount of rain, 0.100 inch.
17. Several showers during the day, with much lightning and thunder. Amount of rain, 0.140 inch.
18. Raining moderately at 8h. a. m. Amount, 0.260 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Aug. 19	0	NW.	1	K.	10	Aug. 20	0	N. NE.	1	K.	10	Aug. 21	0	NE.	1	K.	10
	3	NW.	1	K.	10		3	NE.	2	K.	10		3	N.	1	K.	10
	6	N. NE.	2	K.	10		6	NE.	2	Mist	10		6	N.	1	K.	10
	9	NE.	2	N.	10		9	NE.	1	K.	10		9	N.	1	K.	10
	Noon	NE.	2	N.	10		Noon	E.	1	N.	10		Noon	N.	1	K.	10
	3	NE.	2	N.	10		3	E. NE.	2	N.	10		3	E.	1	K.	7
	6	NE.	1	N.	10		6	E.	2	N.	10		6	E.	1	C.	2
	9	NE.	1	K.	10		9	NE.	1	K.	10		9	NE.	1	C.	2
Aug. 22	0	NE.	1	C. K.	8	Aug. 23	0	W.	1	C. K.	9	Aug. 24	0	W.	1	C. K.	10
	3	NE.	1	C. K.	10		3	W. NW.	1	K.	10		3	NW.	1	K.	10
	6	S.	1	K.	10		6	W. NW.	1	C. K.	9		6	NW.	1	C. K.	7
	9	S.	1	K.	10		9	NW.	1	Hazy			9	S.	1	K.	10
	Noon	S. SE.	1	C. K.	8		Noon	W. NW.	1	Hazy			Noon	S.	1	C. K.	5
	3	S. SW.	3	K.	10		3	SW.	1	Hazy			3	S.	1	Hazy C.	2
	6	N. NW.	1	C. K.	9		6	SW.	1	C.	5		6	S.	1	C.	4
	9	NW.	1	C. K.	10		9	W.	1	Hazy			9	SW.	1	C. S.	2
Aug. 25	0	NW.	1	C. K.	6	Aug. 26	0	NW.	1	C. K.	10	Aug. 27	0	W.	3	C. K.	10
	3	W.	1	C. K.	5		3	W. NW.	1	Clear	0		3	E. SE.	1	C. K.	7
	6	SW.	1	C. K.	6		9	SW.	1	C. S.	1		6	NE.	1	C. K.	10
	9	SW.	1	K.	10		6	NW.	2	Hazy			9	W. NW.	1	C. K.	5
	Noon	SW.	1	K.	9		Noon	W. NW.	1	Hazy			Noon	W. NW.	1	K.	3
	3	N. NW.	2	K.	10		3	S.	1	Hazy			3	NW.	1	K.	7
	6	S.	1	K.	10		6	SE.	1	C. K.	9		6	NW.	1	K.	7
	9	NW.	2	K.	10		9	SE.	2	K.	10		9	SE.	1	K.	10
Aug. 28	0	SW.	1	C.	1	Aug. 29	0	NW.	1	C. K.	4	Aug. 30	0	NW.	1	C. K.	3
	3	W.	1	C. S.	2		3	W.	1	C. S.	2		3	NW.	1	C. K.	10
	6	NW.	2	Clear	0		6	W.	1	C. K.	6		6	W. NW.	1	C.	2
	9	W.	2	K.	1		9	S.	1	C.	2		9	NW.	1	C.	1
	Noon	W.	1	K.	9		Noon	NW.	2	C. K.	7		Noon	NW.	1	C.	3
	3	SW.	2	K. S.	7		3	NW.	2	C. K.	9		3	W.	1	C. K.	4
	6	W. NW.	1	K.	7		6	NW.	1	C.	3		6	N.	1	C. K.	6
	9	W. NW.	1	C. K.	4		9	NW.	1	Clear	0		9	NW.	1	C. K.	7
Aug. 31	0	NW.	1	C.	1												
	3	NW.	1	Clear	0												
	6	NW.	2	C. K.	3												
	9	NW.	2	C. K.	7												
	Noon	N.	1	C. K.	7												
	3	N.	3	C. K.	9												
	6	N.	1	C.	1												
	9	NW.	1	Clear	0												

REMARKS.

August 19. A light shower of rain at 4h. a. m.
21. Lightning in the NW. from 7h. 30m. to 9h. p. m.
22. Heavy shower of rain at 4h. 30m. p. m. Light shower at 6h. 30m. p. m. Amount of rain, 1. 350 inch.
25. A shower of rain at 5h. p. m.; wind N. Lightning in the S. at 7h. and 8h. p. m. Amount of rain, 0. 300 inch.
26. Intense lightning in the SW. and NW. during the evening, and distant thunder after 9h. p. m.
27. Lightning during the night.
28. Slight rain at 5h. 40m. p. m.
31. A few shooting stars during the night.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Sept. 1	0	NW.	2	Clear	0	Sept. 2	0	NW.	1	Clear	0	Sept. 3	0	N.	1	C. K.	10
	3	NW.	1	Clear	0		3	NW.	1	Clear	0		3	NE.	1	C. K.	10
	6	N. NW.	1	Clear	0		6	NW.	1	Clear	0		6	E. NE.	1	C. K.	10
	9	N. NE.	1	Clear	0		9	S.	1	Hazy			9	S. SE.	1	C. K.	10
	Noon	NW.	2	Clear	0		Noon	SE.	1	C.	6		Noon	S. SE.	2	C. K.	10
	3	N.	1	Clear	0		3	SE.	1	C.	7		3	S. SE.	2	C. K.	10
	6	N.	1	C. K.	10		6	E. SE.	1	C.	3		6	SE.	2	C. K.	10
	9	N. NW.	1	C. K.	4		9	SE.	1	C. S.	5		9	SE.	1	K.	10
Sept. 4	0	E. NE.	1	N.	10	Sept. 5	0	SE.	1	N.	10	Sept. 6	0	NE.	3	N.	10
	3	SE.	2	K.	10		3	S.	1	N.	10		3	NE.	2	N.	10
	6	SE.	1	C. K.	9		6	W.	1	K.	10		6	NE.	3	N.	10
	9	SE.	1				9	NW.	1	C. K.	10		9	N. NE.	3	N.	10
	Noon	SE.	1				Noon	E.	2	C. K.	9		Noon	NE.	2	N.	10
	3	SE.	1	K.	9		3	NE.	3	C. K.	9		3	NE.	3	N.	10
	6	E. SE.	1	K.	10		6	NE.	4	N.	10		6	NE.	3	N.	10
	9			C. S.	2		9	NE.	3	N.	10		9	N. NE.	1	K.	10
Sept. 7	0	NW.	1	K.	10	Sept. 8	0	N.	1	Clear	0	Sept. 9	0	NW.	1	K.	10
	3	N. NW.	1	K.	2		3	N.	1	C.	2		3	N.	1	Mist	10
	6	NW.	2	Clear	0		6	N. NW.	1	C. K.	10		6	NW.	1	Mist	10
	9	NE.	2	C.	1		9	S.	1	C. K.	7		9	N. NW.	1	K.	10
	Noon	NE.	2	C.	1		Noon	SW.	1	C. K.	9		Noon	NW.	1	C. K.	4
	3	E.	2	C. K.	4		3	SE.	1	N.	10		3	W.	1	C.	2
	6	E. NE.	1	C.	3		6	SW.	1	K.	10		6	S. SW.	1	C. K.	9
	9	E.	1	C. K.	2		9	W.	1	K.	10		9	S.	1	C. S.	2
Sept. 10	0	S.	1	C. K.	8	Sept. 11	0	SW.	1	K.	10	Sept. 12	0	NW.	1	K.	7
	3	S. SW.	1	C. K.	9		3	W.	1	C. K.	8		3	Calm	0	K.	8
	6	S. SW.	1	C. K.	8		6	NW.	1	N.	10		6	N.	1	C. K.	9
	9	W.	1	K.	10		9	NW.	1	K.	9		9	N. NW.	1	K.	10
	Noon	NW.	2	C. K.	9		Noon	NW.	3	C. K.	7		Noon	NW.	4	K.	10
	3	W.	1	C. K.	8		3	NW.	3	C. K.	6		3	N.	3	K.	10
	6	W.	1	C. S.	4		6	NW.	1	C. K.	8		6	N. NW.	3	C.	1
	9	SW.	1	C. K.	10		9	NW.	1	C.	3		9	NW.	2	Clear	0
Sept. 13	0	NW.	2	Clear	0	Sept. 14	0	NW.	3	C.	1	Sept. 15	0	NW.	1	K.	10
	3	NW.	2	C.	2		3	NW.	2	Clear	0		3	NW.	1	C.	4
	6	N. NW.	2	C. S.	2		6	W.	1	C. K.	9		6	W.	1	C. K. S.	8
	9	NW.	3	C. K.	3		9	SE.	1	C. K.	9		9	NW.	2	C. K.	7
	Noon	NW.	4	C. K.	2		Noon	S.	1	N.	10		Noon	SW.	4	C. K.	3
	3	NW.	4	C. K.	6		3	S.	1	C. K.	10		3	SW.	3	C. K.	4
	6	W.	1	C.	2		6	S.	1	C. K. S.	3		6	W.	1	C. K.	7
	9	W.	1	Clear	0		9	NE.	1	C. K.	10		9	NW.	2	K.	10

REMARKS.

September 2. A few drops of rain at 11h. 10m. p. m.
3. Raining lightly at 10h. p. m. Amount, 0. 010 inch.
4. Commenced raining heavily at midnight.
5. Rain and thunder from 5h. 30m. to 6h. p. m. Amount of rain, 0. 320 inch.
8. Raining lightly at 2h., 3h., and 4h. p. m.
10. Light shower sof rain at 2h. 30m. and 7h. 35m. a. m.
11. A heavy shower at 2h. a. m.; continued raining till 9h. a. m. Showers at 0h. 15m., 1h. 25m., and 5h. p. m. Amount of rain, 0.490 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Sept. 16	0	NW.	1	C.	2	Sept. 17	0	NW.	1	Clear	0	Sept. 18	0	S.	1	C. K.	9
	3	NW.	1	C.	1		3	NW.	1	Clear	0		3	S.	1	C. K.	8
	6	NW.	1	Clear	0		6	NW.	1	Clear	0		6	S. SW.	1	C. K.	7
	9	NW.	2	C.	1		9	S.	1	C.	2		9	S.	2	C. K.	6
	Noon	NW.	3	C. K.	5		Noon	S. SE.	1	C. K.	5		Noon	S. SW.	2	K.	10
	3	NW.	2	C.	3		3	S. SW.	1	C. K.	4		3	S.	2	K.	10
	6	NW.	1	C. S.	2		6	S.	1	C.	1		6	S.	3	C. K. S.	10
	9	NW.	1	Clear	0		9	W.	1	C.	2		9	S.	1	C. K.	10
Sept. 19	0	S.	1	C. K.	8	Sept. 20	0	SW.	1	Clear	0	Sept. 21	0	S.	1	C. K.	8
	3	W.	1	C. K.	6		3	NW.	1	C. S.	2		3	W.	1	C. K.	10
	6	W.	1	C. K.	7		6	NW.	1	C. S.	2		6	NW.	1	Fog	
	9	NW.	2	C. K.	8		9	SW.	1	Clear	0		9	SW.	1	C. K.	10
	Noon	NW.	3	C. K.	4		Noon	SE.	1	C.	3		Noon	S.	1	C. K.	7
	3	NW.	2	C. K.	2		3	S.	1	C.	1		3	S.	1	C. K.	10
	6	N.	1	Clear	0		6	S.	1	C. S.	10		6	S.	1	K.	10
	9	NW.	1	Clear	0		9	SW.	1	C.	2		9	S.	1	K.	10
Sept. 22	0	W.	1	K.	10	Sept. 23	0	SE.	1	K.	10	Sept. 24	0	SE.	1	K.	10
	3	SW.	1	N.	10		3	SE.	1	N.	10		3	SE.	1	K.	10
	6	SW.	1	K.	9		6	E.	1	K.	10		6	S. SW.	1	C. K.	9
	9	SE.	1	C.	2		9	S. SW.	1	K.	10		9	SW.	1	N.	10
	Noon	SE.	1	C. K.	5		Noon	SE.	1	C. K.	10		Noon	SW.	3	C.	3
	3	E.	1	C. K.	4		3	SW.	1	C. K.	10		3	W.	2	N.	10
	6	SE.	1	C. K.	9		6	S.	1	K.	10		6	NW.	2	C. K. S.	4
	9	S.	1	C. K.	8		9	S.	1	K.	10		9	NW.	1	Clear	0
Sept. 25	0	NW.	6	Clear	0	Sept. 26	0	NW.	1	C.	1	Sept. 27	0	S. SW.	1	Clear	0
	3	NW.	3	Clear	0		3	NW.	1	Clear	0		3	W.	1	Clear	0
	6						6	W.	1	Clear	0		6	S.	1	Clear	0
	9	NW.	4	C. K.	3		9	SW.	1	S.	1		9	SW.	2	Clear	0
	Noon	NW.	3	C. K.	3		Noon	W.	2	C. S.	4		Noon	S. SW.	3	C.	6
	3	NW.	3	Clear	0		3	S.		Clear	0		3	S. SW.	3	C.	4
	6	W.	1	Clear	0		6	S. SW.	1	C.	1		6	S.	1	S.	1
	9	SW.	1	Clear	0		9	W.	1	Clear	0		9	S.	1	Clear	0
Sept. 28	0	SW.	1	Clear	0	Sept. 29	0	W.	1	K.	10	Sept. 30	0	S.	3	K.	10
	3	S.	2	Clear	0		3	SW.	1	K.	10		3	S.	3	N.	10
	6	SW.	2	C. K.	6		6	S.	1	K.	10		6	S. SW.	1	Mist	10
	9	S.	1	C. K.	8		9	S.	3	C. K.	7		9	NW.	2	K.	10
	Noon	N. NW.	2	C. S.	10		Noon	S.	3	C. K.	6		Noon	NW.	1	K.	10
	3	S.	1	C. K.	10		3	S.	3	C. K.	8		3	SW.	1	C. K.	8
	6	E.	1	C. K. S.	9		6	S.	2	C. K.	9		6	N.	2	C. K.	10
	9	S.	1	C. K.	8		9	S.	2	K.	10		9	N.	2	C. K.	3

REMARKS.

September 18. Raining lightly at 4h. p. m. Lunar halo at midnight.
22. Raining lightly at 1h. 45m. a. m.
23. Raining at 1h. 30m. a. m.
24. Raining at 8h. 50m. a. m.
28. Raining lightly at 11h. 55m. a. m. Lightning in the east from 8h. to 10h. p. m.
30. Commenced raining at 2h. 50m. a. m. Moderate showers at intervals during the morning. Amount, 0.210 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Oct. 1	0	N. NE.	2	K.	10	Oct. 2	0	NE.	2	N.	10	Oct. 3	0	SE.	1	K.	10
	3	NE.	2	K.	10		3	NE.	1	N.	10		3	E.	1	K.	10
	6	NE.	2	N.	10		6	N.	1	Mist	10		6	NE.	1	K.	10
	9	NE.	2	C. K.	10		9	N.	1	Mist	10		9	E. NE.	2	K.	10
	Noon	E. NE.	2	N.	10		Noon	W.	1	C. K.	10		Noon	E. SE.	1	K.	10
	3	NE.	2	N.	10		3	W. NW.	1	C. K.	8		3	E.	1	K.	10
	6	NE.	1	N.	10		6	W.	1	C. K. S.	10		6	NE.	1	K.	10
	9	NE.	1	N.	10		9	W. NW.	2	C. K.	7		9	NE.	1	K.	10
Oct. 4	0	E.	1	K.	10	Oct. 5	0	N. NE.	1	K.	10	Oct. 6	0	E.	1	K.	10
	3	NE.	1	Mist	10		3	E.	1	K.	10		3	SE.	1	Mist	10
	6	NE.	1	Mist	10		6	E.	1	Fog	10		6	E. SE.	1	Mist	10
	9	E.	1	Mist	10		9	SE.	1	Fog	10		9	S. SW.	1	C. K.	7
	Noon	SE.	1	K.	10		Noon	E.	1	Fog	10		Noon	S.	2	C. K.	6
	3	NE.	1	K.	10		3	S.	1	C. K.	10		3	SW.	2	K. S.	10
	6	E.	1	C. K.	10		6	E.	1	K.	10		6	S.	2	C. K. S.	10
	9	NE.	1	Hazy			9	E.	1	K.	10		9	S.	2	C. K.	6
Oct. 7	0	W.	2	C.	6	Oct. 8	0	W.	1	K.	10	Oct. 9	0	NW.	3	C. S.	4
	3	SW.	1	C. K.	4		3	NW.	5	C. K.	4		3	NW.	2	C. K.	6
	6	W.	1	Clear	0		6	NW.	3	C. S.	2		6	N.	2	C. S.	4
	9	W. NW.	1	Clear	0		9	W.	4	C. K.	5		9	NW.	4	C. K.	8
	Noon	W.	2	Clear	0		Noon	W. NW.	6	C. K.	6		Noon	NW.	3	C. K.	9
	3	SW.	2	C.	1		3	NW.	5	C. K.	5		3	NW.	4	C. K.	9
	6	S. SW.	1	Clear	0		6	NW.	4	C. S.	2		6	W. NW.	1	S.	1
	9	S.	1	Clear	0		9	NW.	3	C. K.	2		0	NW.	1	Clear	0
Oct. 10	0	W.	1	Clear	0	Oct. 11	0	S.	1	C. K.	7	Oct. 12	0	N.	1	C. K.	6
	3	NW.	2	Clear	0		3	W.	1	C. K.	8		3	N. NE.	1	C.	4
	6	SW.	1	Clear	0		6	W. NW.	1	Clear	0		6	N. NE.	1	C. K.	10
	9	S.	1	Clear	0		9	N.	1	Clear	0		9	E.	1	C.	5
	Noon	S.	3	C.	1		Noon	NW.	2	C. K.	3		Noon	S.	1	C. K.	8
	3	S.	3	C.	2		3	W.	1	C. K.	3		3	NW.	1	N.	10
	6	S.	1	C. S.	2		6	N.	1	Clear	0		6	NW.	1	C. K. S.	8
	9	S. SE.	1	C. K.	3		9	N.	1	C.	4		9	NW.	2	C.	2
Oct. 13	0	W.	1	C. K.	10	Oct. 14	0	W.	1	Clear	0	Oct. 15	0	NW.	1	C. K.	10
	3	W. NW.	1	C. K.	8		3	W.	2	Clear	0		3	W.	1	K.	10
	6	NW.	3	Clear	0		6	W.	1	C. S.	4		6	W.	1	C. K.	9
	9	NW.	2	C. K.	3		9	W.	3	C.	1		9	SW.	1	C. K.	10
	Noon	NW.	4	C. K.	6		Noon	W. NW.	4	C. K.	4		Noon	W. NW.	1	C. K.	7
	3	NW.	4	C. K.	4		3	NW.	3	C.	2		3	W. NW.	1	C. K.	9
	6	NW.	1	S.	1		6	S. SE.	1	Hazy			6	S.	1	C. K.	5
	9	NW.	2	Clear	0		9	NW.	1	Clear	0		9	NW.	1	N.	10

REMARKS.

October 1. Light showers of rain after 6h. a. m. Amount, 0.610 inch.
2. Amount of rain, 0.070 inch.
3. A light shower of rain at 4h. a. m.
9. Many meteors at 1h. and 2h. a. m.
10. A heavy white frost this morning, destroying the foliage of tender plants in exposed localities.
12. Commenced raining at 1h. 30m. p. m. Amount, 0.180 inch.
15. Commenced raining lightly at 8h. 50m. p. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Oct. 16	0	NW.	1	K,	10	Oct. 17	0	W. SW.	1	C. K.	9	Oct. 18	0	S.	1	C. S.	4
	3	NW.	1	C. K.	10		3	W.	1	C. K.	7		3	W. NW.	1	C. S.	2
	6	NW.	1	C. K.	2		6	W.	2	Clear	0		6	W.	1	C. K.	6
	9	NW.	1	C. K.	9		9	SW.	2	C.	3		9	W. SW.	1	C. K.	6
	Noon	W. NW.	4	C.	2		Noon	NW.	2	Clear	0		Noon	SW.	1	C.	3
	3	W.	4	C.	1		3	W.	1	C.	1		3	W.	1	C.	2
	6	W. NW.	2	C. S.	2		6	W. SW.	1	C.	1		6	W.	1	Clear	0
	9	NW.	1	C.	1		9	W.	1	C.	1		9	W.	1	Clear	0
Oct. 19	0	W.	1	Clear	0	Oct. 20	0	NW.	1	C. K.	9	Oct. 21	0	NW.	1	Clear	0
	3	NW.	1	Clear	0		3	NW.	1	K.	10		3	NW.	1	Clear	0
	6	NW.	1	S.	1		6	NW.	1	K.	10		6	NW.	2	Fog	
	9	NW.	1	Clear	0		9	NW.	1	C. K.	6		9	NW.	1	Clear	0
	Noon	NW.	1	Clear	0		Noon	NW.	1	K.	10		Noon	W.	1	Clear	0
	3	NW.	1	C. K.	1		3	W. NW.	1	C. S.	2		3	W.	1	C.	2
	6	W.	1	C. S.	2		6	NW.	1	Clear	0		6	S.	1	C. S.	2
	9	W.	1	C. K.	8		9	NW.	1	Clear	0		9	SE.	1	C. K.	5
Oct. 22	0	W.	1	K.	10	Oct. 23	0	NW.	4	C. S.	3	Oct. 24	0	NW.	1	C. S.	6
	3	N. NW.	1	N.	10		3	NW.	3	Clear	0		3	NW.	1	C.	10
	6	N.	2	C. S.	3		6	W.	1	C.	3		6	NW.	2	C. S.	10
	9	NW.	4	C. K.	9		9	W.	1	C. K.	6		9	NW.	1	C. K.	7
	Noon	W.	4	C.	4		Noon	NW.	3	C. K.	9		Noon	W. NW.	1	C. K.	6
	3	NW.	4	C.	5		3	NW.	3	C. K.	8		3	N.	1	K.	10
	6	NW.	4	K.	10		6	NW.	1	K.	10		6	N.	1	C. S.	10
	9	NW.	4	K.	10		9	NW.	1	K.	10		9	N. NW.	1	C. K.	9
Oct. 25	0	NW.	1	S.	1	Oct. 26	0	NW.	1	Clear	0	Oct. 27	0	SE.	1	K.	10
	3	NW.	1	Clear	0		3	NW.	1	Clear	0		3	S.	1	K.	10
	6	NW.	1	Clear	0		6	NW.	1	Clear	0		6	S.	1	K.	10
	9	N.	3	Clear	0		9	NW.	1	C. S.	3		9	S.	1	N.	10
	Noon	N. NW.	2	C. K.	3		Noon	Calm	0	C.	8		Noon	S. SW.	3	C. K.	10
	3	N. NW.	2	C. K.	3		3	S. SE.	1	C. S.	9		3	S. SE.	2	K.	10
	6	N.	1	Clear	0		6	SE.	1	C. K.	7		6	S.	1	N.	10
	9	NW.	1	Clear	0		9	S. SE.	1	C. K.	10		9	S.	2	K.	10
Oct. 28	0	S.	2	N.	10	Oct. 29	0	NW.	3	S.	1	Oct. 30	0	NW.	1	Clear	0
	3	S. SW.	3	N.	10		3	NW.	2	Clear	0		3	NW.	2	Clear	0
	6	W.	3	C. S.	2		6	W.	1	Clear	0		6	NW.	1	Clear	0
	9	W.	3	C. S.	2		9	NW.	1	Clear	0		9	W.	1	S.	2
	Noon	W.	6	C. K.	7		Noon	NW.	2	C. K.	3		Noon	W.	2	C. S.	2
	3	W. NW.	4	C.	3		3	W. NW.	2	C. K.	3		3	N.	2	C.	3
	6	W.	3	C. S.	2		6	N.	1	S.	1		6	N. NW.	1	S.	1
	9	NW.	3	C. S.	2		9	W.	1	Clear	0		9	NW.	1	Clear	0

REMARKS.

October 22. Commenced raining at 0h. 35m. a. m. Amount, 0. 174 inch.
25. A few faint meteors about midnight.
27. A light shower at 8h. 30m. a. m.
29. At 9h. 43m. p. m. a meteor appeared about 8° below and south of Mars. It was faint at first, gradually brightening until it was more brilliant than Jupiter, and descended towards the earth at an inclination of 30° to the horizon, leaving a luminous train, and disappearing after describing an arc of about 40°.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Weather.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1864. Oct. 31	0	N. NW.	1	Clear	0	1864.						1864.					
	3	W.	1	Clear	0												
	6	W.	1	S.	1												
	9	S.	1	C. K.	10												
	Noon	W. NW.	3	C. K.	8												
	3	W. NW.	2	C. K. S.	8												
	6	NW.	1	C. S.	2												
	9	NW.	1	K.	4												
Nov. 1	0	W.	1	K.	10	Nov. 2	0	N. NW.	1	C. K.	6	Nov. 3	0	NE.	1	K.	10
	3	NW.	2	Clear	0		3	NW.	1	K.	10		3	E.	1	N.	10
	6	NW.	1	Clear	0		6	N.	1	K.	10		6	NE.	1	N.	10
	9	NW.	2	S.	3		9	NE.	1	K.	10		9	NE.	1	N.	10
	Noon	NW.	1	C. S.	7		Noon	E.	1	K.	10		Noon	NE.	1	Mist	10
	3	NW.	1	C. S.	3		3	NE.	1	N.	10		3	NE.	1	N.	10
	6	N. NW.	1	S.	1		6	E.	1	N.	10		6	NE.	1	N.	10
	9	NW.	1	Clear	0		9	NE.	1	K.	10		9	NE.	1	N.	10
Nov. 4	0	NE.	1	N.	10	Nov. 5	0	W.	1	C. K.	8	Nov. 6	0	NW.	1	Clear	0
	3	N.	2	N.	10		3	NW.	2	K.	10		3	NW.	1	Clear	0
	6	W.	3	N.	10		6	W. NW.	1	K.	10		6	SE.	1	S.	1
	9	S. SW.	1	K.	10		9	NW.	2	C. K. S.	7		9	SE.	1	C.	7
	Noon	SW.	3	C. K.	7		Noon	NW.	6	C.	4		Noon	S. SE.	1	C.	10
	3	W. SW.	2	C. K. S.	8		3	NW.	4	C.	1		3	S.	1	C. K.	10
	6	W.	2	C. S.	4		6	NW.	1	Clear	0		6	SE.	1	S.	1
	9	W.	1	Clear	0		9	NW.	1	Clear	0		9	SE.	1	K.	10
Nov. 7	0	S.	2	K.	10	Nov. 8	0	SW.	1	Fog		Nov. 9	0	S.	1	N.	10
	3	S. SE.	2	K.	10		3	SE.	1	Fog			3	S.	2	K.	10
	6	S.	1	N.	10		6	SE.	1	Fog			6	S.	1	C. K.	10
	9	S.	1	N.	10		9	S.	1	Fog			9	S.	1	N.	10
	Noon	S.	1	N.	10		Noon	S.	1	C. K.	10		Noon	S.	2	K.	10
	3	S. SE.	1	N.	10		3	S.	1	K.	10		3	S.	2	C. K.	9
	6	S.	1	N.	10		6	SE.	1	K.	10		6	S.	1	C. K.	10
	9	SW.	1	K.	10		9	SE.	1	N.	10		9	S.	3	C. K.	10
Nov. 10	0	S. SE.	2	C. K.	10	Nov. 11	0	NW.	2	C. K.	10	Nov. 12	0	W.	1	C. K.	5
	3	S.	4	N.	10		3	NW.	1	C. K.	4		3	SW.	1	C. K.	6
	6	S.	4	K.	10		6	SW.	1	S.	1		6	S.	1	K.	10
	9	NW.	2	N.	10		9	W.	2	C. S.	2		9	S.	1	C. K.	9
	Noon	NW.	2	C. K.	1		Noon	W. SW.	2	S.	1		Noon	S.	2	C. K.	9
	3	NW.	3	Clear	0		3	SW.	1	C.	1		3	NW.	4	N.	10
	6	NW.	1	Clear	0		6	SW.	1	C. K. S.	3		6	W. NW.	5	C. K.	9
	9	W. NW.	1	C. S.	4		9	SE.	1	C. K.	9		9	NW.	4	S.	1

REMARKS.

November 1. A few snowflakes fell at 3h. p. m.
2. A few meteors at midnight. Commenced raining at 1h. p. m.
3. Hail at 1h. a. m.; rain at 2h. 30m. a. m. Amount, 0.150 inch.
4. Rain during the morning. Amount, 0.186 inch.
7. A moderate shower at 1h. a. m. Commenced raining steadily at 3h. 10m. a. m. Amount, 0.600 inch.
8. Commenced raining at 6h. 20m. p. m., and continued till after midnight.
9. Light showers during the day. Amount of rain, 0.010 inch.
10. Rain at 1h. 30m., 3h., and 8h. 45m., a. m. Amount, 0.130 inch. A bright meteor appeared at 7h. p. m., starting from about 7° west of the zenith and descending in a line perpendicular to the plane of the horizon.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force		
1864.						1864.						1864.					
Nov. 13	0	W. NW.	1	C. S.	3	Nov. 14	0	W.	1	C. K.	1	Nov. 15	0	N. NW.	1	Clear	0
	3	W.	2	C. K.	9		3	W.	1	C.	1		3	N.	1	C. K.	4
	6	W. NW.	1	C. K. S.	2		6	W. NW.	1	K.	10		6	E.	1	C. K.	8
	9	W.	3	C. S.	2		9	NW.	2	C. K.	9		9	S.	1	K.	10
	Noon	NW.	5	C. K.	5		Noon	NW.	3	C. K.	5		Noon	S. SW.	2	K.	10
	3	NW.	4	C. K.	8		3	NW.	2	C. K.	1		3	S.	1	C. K.	4
	6	NW.	2	C. S.	9		6	N.	1	Clear	0		6	NW.	1	C. K.	9
	9	NW.	2	C. K.	9		9	N. NW.	1	Clear	0		9	N. NW.	2	C. K.	8
Nov. 16	0	NW.	4	Clear	0	Nov. 17	0	NE.	1	K.	10	Nov. 18	0	S.	1	K.	10
	3	NW.	1	Clear	0		3	E. SE.	1	C. K.	7		3	S.	1	N.	10
	6	NW.	1	Clear	0		6	E. SE.	1	K.	10		6	S. SE.	1	N.	10
	9	N.	2	Clear	0		9	S.	1	K.	10		9	NW.	1	N.	10
	Noon	S.	1	C.	1		Noon	S.	1	K.	10		Noon	NW.	1	N.	10
	3	S.	1	C.	4		3	SE.	1	K.	10		3	N.	1	N.	10
	6	SE.	1	C. S.	2		6	S. SE.	1	C. K. S.	7		6	N.	1	N.	10
	9	SE.	1	S.	2		9	SE.	1	C. K.	6		9	N.	1	K.	10
Nov. 19	0	NW.	1	N.	10	Nov 20.	0	S.	1	K.	10	Nov. 21	0	NW.	1	K.	10
	3	NW.	1	K.	10		3	SW.	1	N.	10		3	NW.	1	K.	10
	6	NW.	1	N.	10		6	NW.	1	N.	10		6	W. SW.	1	K.	10
	9	N.	1	N.	10		9	N.	1	Mist	10		9	NW.	1	K.	10
	Noon	S. SE.	1	C. K.	6		Noon	N.	1	N.	10		Noon	N.	1	N.	10
	3	SE.	1	C. K.	5		3	NE.	1	N.	10		3	N.	1	N.	10
	6	S.	1	C. S.	2		6	E.	1	N.	10		6	N. NE.	1	N.	10
	9	SW.	1	C. K.	10		9	SE.	1	N.	10		9	N.	2	N.	10
Nov. 22	0	NW.	6	N.	10	Nov. 23	0	NW.	4	C. K.	7	Nov. 24	0	NW.	1	Clear	0
	3	NW.	5	K.	10		3	NW.	1	C. S.	2		3	NW.	1	Clear	0
	6	NW.	3	N.	10		6	W.	2	C. K.	2		6	NW.	1	C. K.	8
	9	NW.	3	C. K. S.	10		9	W. NW.	4	Clear	0		9	NE.	1	C. K.	10
	Noon	NW.	2	C. K.	10		Noon	NW.	4	C.	1		Noon	S.	1	C. K.	3
	3	NW.	2	K.	10		3	W. NW.	2	C.	1		3	S. SE.	1	Clear	0
	6	NW.	1	K.	10		6	W.	2	Clear	0		6	S.	1	Clear	0
	9	NW.	3	K.	10		9	NW.	1	Clear	0		9	W.	1	Clear	0
Nov. 25	0	NW.	1	Clear	0	Nov. 26	0	SE.	1	C.	2	Nov. 27	0	S.	1	C. K.	8
	3	NW.	1	Clear	0		3	SE.	1	Clear	0		3	SW.	1	Clear	0
	6	NW.	1	Clear	0		6	SE.	1	Clear	0		6	SW.	1	Clear	0
	9	NW.	1	Clear	0		9	S.	1	C. K.	10		9	S.	1	C.	1
	Noon	E. SE.	1	Hazy			Noon	S.	1	C. K.	10		Noon	SE.	1	C. S.	4
	3	SE.	1	C.	3		3	S.	1	K.	10		3	N.	1	C. S.	6
	6	S.	1	C. S.	2		6	SE.	1	K.	10		6	N.	1	S.	1
	9	S. SW.	1	C.	2		9	SE.	1	N.	10		9	N.	1	Clear	0

REMARKS.

November 13. Snowing at 3h. 10m. p. m.
15. Commenced raining at 8h. 10m. a. m., and soon changed to hail. Slight shower. Wind SE.
17. Light showers of rain at intervals during the day.
18. Commenced raining at 0h. 15m. a. m. Amount, 0.445 inch.
19. Light rain during the morning till 10h. a. m. Amount, 0.055 inch.
20. Commenced raining at 2h. 30m. a. m. Amount, 0.550 inch.
22. Rain and snow at midnight. Snowing lightly at intervals during the day.
23. Several meteors during the early part of the night.
25. Several meteors after midnight.
26. Commenced raining at 6h. 40m. p. m. Amount, 0.100 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.		
1864.					
Nov. 28	0	NW.	1	C. K.	5
	3	E.	1	C. K.	10
	6	NE.	1	K.	10
	9	E.	1	K.	10
	Noon	S.	1	C. K.	10
	3	S. SW.	1	C. K.	10
	6	SE.	1	K.	10
	9	SE.	1	K.	10
1864.					
Nov. 29	0	SE.	1	Hazy	
	3	S. SE.	1	C. K.	4
	6	S.	1	C. K.	10
	9	S. SE.	1	C. K.	8
	Noon	SW.	1	C. K.	7
	3	SW.	1	S.	2
	6	S. SW.	1	S.	1
	9	SW.	1	C. S.	2
1864.					
Nov. 30	0	SW.	1	C.	4
	3	SE.	1	C. K.	4
	6	E.	1	K.	10
	9	S. SW.	1	C. K.	9
	Noon	NW.	3	C. K.	8
	3	NW.	3	C. K.	7
	6	W. NW.	1	S.	1
	9	W.	2	C.	2
Dec. 1	0	S.	1	C.	1
	3	SW.	1	S.	2
	6	SW.	1	C. K. S.	4
	9	SW.	1	C.	4
	Noon	W.	1	C.	6
	3	W.	1	C.	8
	6	S.	1	C. S.	3
	9	SW.	1	C. K.	10
Dec. 2	0	SW.	1	Hazy	
	3	SE.	1	C. K.	6
	6	NE.	1	K.	10
	9	NE.	1	C. K.	10
	Noon	S.	1	C. K.	10
	3	S. SE.	1	N.	10
	6	E.	1	N.	10
	9	E.	1	K.	10
Dec. 3	0	S. SE.	1	K.	10
	3	SE.	1	K.	10
	6	S.	1	K.	10
	9	S.	1	K.	10
	Noon	S.	1	C. K.	8
	3	S. SW.	2	K. S.	9
	6	W. NW.	1	K.	10
	9	NW.	3	C. S.	2
Dec. 4	0	NW.	1	C. S.	2
	3	W.	1	C.	1
	6	W.	2	C. K.	4
	9	W. NW.	2	C. K.	7
	Noon.	W. NW.	2	C. K.	4
	3	NW.	1	Clear	0
	6	NW.	1	Clear	0
	9	NW.	1	Clear	0
Dec. 5	0	NW.	1	Clear	0
	3	N. NE.	1	Clear	0
	6	NE.	1	S.	1
	9	E.	1	C. S.	6
	Noon	E. NE.	1	C.	4
	3	SE.	1	C. K.	10
	6	NE.	1	K.	10
	9	E.	1	C. K.	7
Dec. 6	0	W.	1	C.	4
	3	W.	1	C. K.	8
	6	W. NW.	1	K.	10
	9	E.	1	K.	10
	Noon	S.	1	C. K.	10
	3	S. SE.	1	C. K.	6
	6	NE.	1	Clear	0
	9	NE.	1	C. S.	3
Dec. 7	0	N.	1	C. K.	6
	3	NE.	1	Fog	
	6	SE.	1	K.	10
	9	NE.	1	K.	10
	Noon	S.	1	N.	10
	3	S.	2	N.	10
	6	S. SW.	1	Clear	0
	9	S. SW.	1	C. S.	2
Dec. 8	0	NW.	2	C. K.	8
	3	NW.	4	S.	2
	6	NW.	3	C. S.	4
	9	NW.	2	C. K.	10
	Noon	NW.	2	C. K. S.	9
	3	W.	2	C. K. S.	9
	6	NW.	2	C. K. S.	7
	9	NW.	3	C. S.	6
Dec. 9	0	NW.	4	C. K.	10
	3	NW.	3	C. K.	10
	6	N.	1	C. S.	4
	9	N.	1	C. S.	6
	Noon	N.	1	C. S.	6
	3	NE.	1	K.	10
	6	NE.	1	K.	10
	9	NE.	2	N.	10
Dec. 10	0	NE.	1	N.	10
	3	NE.	1	N.	10
	6	N.	1	K.	10
	9	NW.	2	Mist	10
	Noon	N. NW.	1	Mist	10
	3	NW.	1	K.	10
	6	NW.	1	K.	10
	9	N.	1	K.	10
Dec. 11	0	N.	1	C. K.	10
	3	NW.	1	K.	10
	6	NW.	1	Mist	10
	9	NW.	1	Mist	10
	Noon	NW.	1	K.	10
	3	W.	1	K.	10
	6	NW.	4	K.	10
	9	NW.	4	C. K.	3
Dec. 12	0	W. NW.	3	Clear	0
	3	W.	2	C.	1
	6	W.	2	Clear	0
	9	W. SW.	3	C. K.	1
	Noon	W. NW.	4	C.	1
	3	W. NW.	3	C. K.	1
	6	NW.	2	Clear	0
	9	NW.	1	Clear	0

REMARKS.

December 2. Commenced raining at 2h. 25m. p. m.
7. A light shower at 7h. 50m. a. m. Amount, 0. 080 inch.
9. Commenced snowing at 7h. 35m. p. m. Depth, 3. 5 inches.
11. Snowing lightly at 5h. p. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Dec. 13	0	SW.	1	C. S.	4	Dec. 14	0	S. SW.	4	K.	10	Dec. 15	0	N. NW.	1	C.	2
	3	N.	1	C. K.	10		3	S.	2	N.	10		3	N. NW.	1	C.	3
	6	N.	1	K.	10		6	S.	1	K.	10		6	N.	1	C. K.	10
	9	S.	1	K.	10		9	S. SW.	1	C. K.	9		9	NE.	1	K.	10
	Noon	S.	1	C. K.	8		Noon	S.	1	C. K.	8		Noon	SE.	1	K.	10
	3	S.	1	K.	10		3	SW.	1	C. K.	4		3	E. NE.	1	N.	10
	6	S.	1	K.	10		6	NW.	1	Clear	0		6	E.	1	K.	10
	9	SW.	2	K.	10		9	NW.	1	Clear	0		9	E. SE.	1	K.	10
Dec. 16	0	NE.	1	C. K.	9	Dec. 17	0	N. NE.	1	Mist	10	Dec. 18	0	NW.	1	C. K.	9
	3	NE.	1	C. K.	6		3	N.	1	Fog	10		3	NW.	1	C. K.	6
	6	NE.	1	K.	10		6	N.	1	Fog	10		6	NW.	1	C. S.	4
	9	N.	1	K.	10		9	N.	1	Fog	10		9	NW.	1	C. K.	10
	Noon	N.	1	C. K.	10		Noon	N.	1	Fog	10		Noon	NE.	1	K.	10
	3	N. NE.	1	K.	10		3	NW.	1	N.	10		3	NE.	1	K.	10
	6	NE.	1	K.	10		6	NW.	1	C. S.	9		6	NE.	1	K.	10
	9	NE.	1	Mist	10		9	NW.	1	C.	4		9	E.	1	K.	10
Dec. 19	0	E. SE.	1	K.	10	Dec. 20	0	NW.	2	C. K.	7	Dec. 21	0	NE.	1	K.	10
	3	SE.	1	K.	10		3	NW.	4	C. S.	4		3	E.	1	K.	10
	6		1	N.	10		6	NW.	2	S.	2		6	NE.	2	N.	10
	9	S.	1	N.	10		9	NW.	2	C. K. S.	9		9	NE.	1	N.	10
	Noon	S.	1	N.	10		Noon	NW.	2	C. K. S.	9		Noon	NE.	1	N.	10
	3	S.	1	K.	10		3	NW.	2	C. K.	6		3	NW.	1	K.	10
	6	NW.	1	K.	10		6	NW.	1	S.	2		6	SW.	1	K.	10
	9	NW.	3	K.	10		9	NW.	1	C.	4		9	NW.	3	C. K.	2
Dec. 22	0	NW.	2	C. K.	2	Dec. 23	0	NW.	1	Clear	0	Dec. 24	0	SW.	1	C. K.	3
	3	NW.	4	K.	9		3	NW.	1	C.	2		3	W.	1	C. S.	4
	6	NW.	5	K.	10		6	NW.	1	C.	1		6	W.	1	C. K.	8
	9	NW.	4	C. K. S.	8		9	NW.	1	Clear	0		9	SW.	1	C. K.	9
	Noon	NW.	5	C. K.	8		Noon						Noon	NW.	1	C. K.	9
	3	NW.	3	C. K.	2		3	W.	1	C. K.	4		3	NW.	2	C. K.	2
	6	NW.	3	S.	1		6	W.	1	Clear	0		6	W.	1	Clear	0
	9	NW.	3	C.	2		9	NW.	1	C. K.	2		9	NW.	1	Clear	0
Dec. 25	0	NE.	1	Clear	0	Dec. 26	0	E.	1	K.	10	Dec. 27	0	NW.	1	Mist	10
	3	E.	1	Clear	0		3	SE.	1	N.	10		3	NW.	1	Fog	10
	6	NW.	1	C. S.	1		6	S.	1	N.	10		6	NW.	1	Fog	10
	9	N.	1	C. S.	3		9	N.	1	Mist	10		9	SW.	1	Fog	10
	Noon	SE.	1	C.	8		Noon	N.	1	Mist	10		Noon	SE.	1	Fog	10
	3	S.	1	C. S.	3		3	N. NW.	1	C. K.	10		3	SE.	1	Fog	10
	6	SE.	1	K.	10		6	NW.	1	K.	10		6	S.	1	K.	10
	9	E.	1	K.	10		9	NW.	1	K.	10		9	S.	1	C. K.	1

REMARKS.

December 14. Commenced hailing at 0h. 25m. a. m.; changed to rain and sleet at 0h. 45m. a. m. Amount of rain and melted snow gauged since December 8, 0.750 inch.
15. Commenced snowing at 2h. 45m. p. m.
16. Raining lightly at 7h. 30m. p. m.
17. Amount of rain, 0.030 inch.
19. Commenced raining at 4h. a. m. Amount, 0.140 inch.
21. Commenced snowing at 3h. 30m. a. m. Depth, 2.5 inches.
26. Commenced raining at 0h. 5m. a. m. Amount of rain and melted snow gauged since December 20, 1.070 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Dec. 28	0	SE.	1	K.	10	Dec. 29	0	NW.	2	N.	10	Dec. 30	0	NW.	1	Hazy	
	3	E.	1	N.	10		3	NW.	3	N.	10		3	SW.	1	K.	10
	6	W.	1	N.	10		6	NW.	3	K.	10		6	SW.	1	S.	3
	9	W. NW.	1	Fog	10		9	N. NW.	2	K. S.	10		9	S. SW.	2	C. S.	3
	Noon	NW.	1	C. K.	4		Noon	NW.	2	C. K.	9		Noon	S.	2	C. K.	9
	3	W.	1	C. K.	10		3	NW.	2	C. K. S.	10		3	S.	2	C. K.	4
	6	NE.	1	K.	10		6	NW.	3	K. S.	2		6	S. SW.	2	K.	10
	9	NW.	1	N.	10		9	NW.	2	S.	1		9	S.	1	K.	10
Dec. 31	0	SW.	1	K.	10												
	3	W.	1	N.	10												
	6	NW.	1	N.	10												
	9	NW.	1	N.	10												
	Noon	NW.	1	N.	10												
	3	NW.	2	N.	10												
	6	NW.	1	K. S.	9												
	9	NW.	3	C. S.	3												

REMARKS.

December 28. Rain from 1h. a. m. to 6h. 30m. a. m.; also at 6h. 15m. p. m. Amount, 0.850 inch.
30. Snowing lightly at 1h. a. m.
31. Commenced snowing at 0h. 20m. a. m., and ceased at 5h. p. m.

METEOROLOGICAL OBSERVATIONS.

MEAN MONTHLY AND ANNUAL RESULTS.

1864.

TABLE I.

Monthly means of barometric pressure.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
January ...	30.009	30.014	30.003	30.035	30.006	29.988	30.018	30.038
February ..	29.910	29.899	29.902	29.921	29.894	29.850	29.886	29.912
March	29.834	29.832	29.850	29.868	29.832	29.780	29.787	29.816
April	29.856	29.849	29.864	29.911	29.855	29.819	29.827	29.862
May.....	29.770	29.774	29.793	29.801	29.780	29.767	29.761	29.805
June	29.947	29.951	29.971	29.979	29.972	29.928	29.921	29.945
July	29.933	29.933	29.952	29.962	29.945	29.909	29.900	29.938
August	29.856	29.851	29.872	29.890	29.871	29.834	29.830	29.862
September .	29.933	29.927	29.947	29.967	29.943	29.909	29.912	29.937
October....	29.898	29.868	29.874	29.899	29.867	29.835	29.849	29.870
November..	29.994	29.989	29.996	30.022	29.987	29.965	29.989	29.999
December..	29.915	29.921	29.922	29.950	29.891	29.888	29.909	29.919
Ann'l means	29.905	29.901	29.912	29.934	29.904	29.873	29.882	29.909

TABLE II.

Monthly means of dry thermometer.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	○	○	○	○	○	○	○	○
January ...	29.69	28.45	27.80	30.11	39.33	41.81	36.28	32.38
February ..	32.77	30.81	29.67	34.07	41.39	44.21	38.32	34.99
March	36.09	34.35	33.13	38.42	44.47	46.15	43.31	38.97
April	45.90	43.79	42.99	50.93	55.62	57.28	54.61	49.33
May.....	60.46	58.12	57.79	66.82	73.21	75.58	70.43	64.20
June	64.40	61.41	61.50	71.67	78.55	80.54	76.54	68.04
July	70.32	68.03	67.12	76.98	85.93	87.62	83.66	74.74
August	72.88	71.09	70.29	77.10	84.13	85.93	80.39	74.41
September .	61.54	59.91	58.98	61.80	72.03	74.00	67.35	63.32
October....	50.17	47.99	46.56	53.00	61.98	62.50	55.65	52.14
November..	41.25	40.27	39.78	43.17	50.19	50.65	45.73	43.07
December..	33.62	32.59	31.64	33.65	38.67	39.42	37.15	34.24
Ann'l means	49.93	48.07	47.27	53.14	60.46	62.14	57.45	52.49

TABLE III.

Monthly means of wet thermometer.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	○	○	○	○	○	○	○	○
January ...	28.37	27.24	26.97	28.73	35.56	36.86	32.36	30.19
February ..	33.16	31.27	31.67	34.15	39.57	41.33	37.04	34.69
March	34.84	32.89	31.96	35.97	39.76	40.77	38.82	36.40
April	43.36	42.05	41.36	46.82	49.63	50.67	48.58	45.89
May.....	58.61	56.83	57.05	62.94	67.10	68.61	65.67	61.56
June	61.79	59.50	59.20	66.11	69.36	70.40	68.42	64.27
July	66.19	65.00	64.35	69.07	72.95	72.91	71.86	68.24
August	70.18	69.13	68.41	71.51	74.45	74.46	73.46	71.97
September .	59.39	58.41	57.87	60.89	64.04	65.48	62.68	60.47
October....	48.05	45.84	44.81	49.20	53.93	53.76	51.03	49.16
November..	40.71	40.06	39.92	42.04	45.51	46.26	43.07	41.81
December..	33.44	32.30	31.71	33.70	37.07	37.32	36.06	33.98
Ann'l means	48.17	47.54	46.27	50.09	54.08	54.90	52.42	49.89

TABLE IV.

Monthly means of sun thermometer.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	○	○	○	○	○	○	○	○
January ...	31.79	28.06	27.05	46.09	70.66	73.97	65.21	36.29
February ..	31.03	29.60	27.37	54.67	72.68	79.21	73.03	37.38
March	36.23	33.19	31.26	63.45	78.60	82.27	70.95	43.36
April	45.43	42.36	41.50	80.10	95.52	95.03	83.56	54.54
May.....	59.78	56.33	58.22	95.02	115.24	119.71	110.51	70.45
June	63.17	58.77	61.77	108.39	121.71	123.56	113.90	80.68
July	66.40	63.10	66.64	107.64	125.32	118.18	97.36	72.53
August	69.21	67.52	68.78	101.73	120.80	114.93	84.62	70.86
September .	57.12	56.23	59.33	88.80	105.64	101.53	63.62	60.02
October....	45.68	43.45	42.61	76.97	97.95	81.38	49.85	44.20
November..	38.27	37.46	37.26	57.26	75.92	64.71	42.03	38.93
December..	31.18	30.24	29.79	41.40	58.13	47.95	34.71	32.27
Ann'l means	47.94	45.53	45.97	76.79	94.85	91.87	74.11	53.46

TABLE V.

Showing the amount of rain that fell during the year 1864.

Month.	Inches.
January	2.174
February	0.289
March	4.720
April	7.036
May	4.010
June	0.799
July	1.354
August	3.374
September	2.450
October	1.284
November	3.216
December	3.308
Annual amount	34.014

TABLE VI.

Showing the number of times that the wind blew from the north at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	2	4	1	2	1	2	0	3
February	2	3	2	1	0	2	2	1
March	8	10	7	5	6	1	6	3
April	1	1	4	4	4	4	4	5
May	5	1	3	4	2	0	3	3
June	5	7	7	6	4	4	5	4
July	4	7	9	1	4	3	2	3
August	2	5	5	4	2	4	5	2
September	2	2	4	4	1	3	3	3
October	5	1	4	3	1	3	5	2
November	2	2	1	3	2	3	4	5
December	4	3	5	5	4	2	0	1
	42	46	52	42	31	31	39	35

Showing the number of times the wind blew from the northeast at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	6	8	8	4	6	4	4	6
February	2	3	2	0	1	0	2	1
March	2	2	5	3	4	5	4	5
April	3	4	5	1	0	2	4	3
May	3	3	3	1	3	2	0	2
June	1	2	3	4	2	2	4	3
July	4	1	4	6	5	3	4	2
August	6	4	4	4	1	2	1	6
September	1	2	1	1	2	2	2	2
October	1	3	3	1	2	2	2	3
November	3	0	1	3	1	2	1	2
December	4	3	4	4	2	2	6	3
	36	35	43	32	29	28	34	38

Showing the number of times the wind blew from the east at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	5	2	1	4	0	1	5	2
February	1	2	2	3	2	0	0	2
March	0	1	1	2	1	3	3	2
April	3	1	1	3	3	2	1	0
May	0	2	2	5	4	5	5	0
June	3	2	0	4	4	6	7	4
July	1	1	0	0	2	5	6	4
August	2	1	0	2	2	3	5	2
September	1	0	2	0	1	2	4	1
October	2	2	2	3	3	1	2	1
November	0	3	2	2	1	0	2	0
December	1	3	0	2	1	1	2	5
	19	20	13	30	24	29	42	23

Showing the number of times the wind blew from the southeast at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	2	3	7	6	6	3	3	2
February	3	2	2	3	3	5	5	4
March	3	0	0	1	1	2	3	3
April	3	2	1	3	1	3	2	5
May	4	1	1	7	3	4	2	3
June	2	1	0	2	3	2	2	1
July	2	0	1	5	4	5	2	5
August	1	0	0	0	2	2	3	3
September	2	4	1	3	5	3	2	2
October	2	1	1	1	1	0	1	1
November	3	3	4	1	1	3	5	8
December	1	4	1	0	3	2	1	0
	28	21	19	31	33	33	30	37

Showing the number of times the wind blew from the south at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	1	2	1	5	8	7	4	1
February	10	5	2	9	8	9	8	7
March	3	3	4	6	5	5	3	2
April	4	2	3	4	7	5	4	3
May	3	2	3	5	6	7	7	4
June	2	2	6	3	6	6	3	5
July	2	3	3	6	4	3	5	4
August	2	2	6	7	6	9	7	2
September	7	4	6	8	7	10	10	8
October	3	2	1	4	4	4	7	5
November	5	5	6	10	14	9	7	2
December	4	1	3	5	8	8	5	3
	46	33	44	72	83	82	70	46

Showing the number of times the wind blew from the southwest at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	3	2	0	0	0	1	6	4
February	1	3	4	3	1	0	2	3
March	0	0	2	1	2	2	1	1
April	1	4	1	3	0	0	3	1
May	5	6	4	1	2	3	5	9
June	2	2	2	3	4	4	3	2
July	5	6	4	3	4	4	8	5
August	4	2	2	3	4	3	4	5
September	2	2	2	5	3	3	1	3
October	0	1	1	3	2	1	0	0
November	2	3	3	0	2	2	1	3
December	3	2	2	3	0	1	1	2
	28	33	27	28	24	24	35	38

TABLE VI—Continued.

Showing the number of times the wind blew from the west at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	4	2	4	3	6	4	5	7
February	2	3	5	2	6	5	3	4
March	5	1	1	3	1	2	2	6
April	3	4	7	4	5	5	5	4
May	6	7	4	4	5	3	2	3
June	5	5	4	3	2	1	3	7
July	3	2	4	3	6	4	3	3
August	4	6	6	3	7	5	3	5
September	2	4	5	1	1	2	5	4
October	8	8	10	6	11	10	7	6
November	5	3	5	3	1	2	4	3
December	2	5	5	3	4	6	2	0
	49	50	60	38	55	49	44	52

Showing the number of times the wind blew from the northwest at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	9	9	10	8	5	7	7	7
February	9	7	9	8	8	7	7	7
March	10	14	11	11	8	13	10	10
April	13	11	7	8	9	7	7	8
May	4	8	8	3	5	5	5	5
June	10	9	9	6	5	5	4	4
July	8	11	6	7	2	4	1	4
August	11	11	9	7	5	3	4	6
September	13	11	8	8	9	6	4	5
October	10	13	10	10	8	9	7	13
November	10	12	7	8	9	8	6	7
December	12	10	10	9	8	9	14	16
	119	126	104	93	81	83	76	92

Showing the number of times it was calm at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	0	0	0	0	0	1	0	0
February	0	0	0	0	0	0	0	0
March	0	0	0	0	1	0	1	0
April	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0
July	2	0	0	0	0	0	0	1
August	0	0	0	0	0	0	0	1
September	0	1	0	0	0	0	0	0
October	0	0	0	0	1	0	0	0
November	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0
	2	1	0	0	2	1	1	2

TABLE VII.

Showing the number of times it was clear at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	8	8	6	4	4	6	5	8
February	11	8	8	3	4	2	4	13
March	6	7	6	3	4	4	6	9
April	6	4	2	2	1	0	1	7
May	5	4	2	1	1	1	3	5
June	9	5	6	1	0	0	2	6
July	7	8	4	1	0	0	0	5
August	0	4	1	0	0	0	0	3
September	9	8	7	3	1	3	2	8
October	7	10	9	7	4	0	5	8
November	3	6	6	3	0	2	5	7
December	3	2	1	0	0	1	5	4
	74	74	58	28	19	19	38	83

Showing the number of times that cirrus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	5	2	4	4	3	4	2	2
February	2	3	4	3	2	4	2	1
March	6	1	0	2	7	3	1	3
April	2	4	2	5	6	2	2	1
May	5	4	3	6	6	8	4	5
June	6	10	4	8	7	5	6	9
July	6	6	4	9	6	4	9	11
August	5	3	3	6	5	2	5	5
September	3	4	0	4	5	6	6	3
October	1	1	2	3	5	10	2	6
November	2	1	0	2	4	5	0	2
December	3	4	0	1	3	1	0	3
	46	43	26	53	59	54	39	51

TABLE VII—Continued.

Showing the number of times that cirro-cumulus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	1	5	2	9	8	9	4	2
February	5	6	0	6	12	14	10	4
March	1	3	0	7	8	12	6	5
April	7	3	7	13	14	16	8	4
May	11	6	11	13	16	15	11	6
June	8	7	10	10	17	19	14	9
July	11	7	15	12	18	17	16	5
August	14	9	14	10	16	17	15	9
September	5	6	11	12	15	16	8	8
October	7	7	4	13	16	11	3	8
November	10	9	5	6	13	8	3	6
December	9	7	3	6	13	9	0	5
	89	75	82	117	166	163	98	71

Showing the number of times that cirro-stratus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	2	4	3	1	2	1	12	5
February	2	4	2	3	0	2	4	0
March	0	3	6	2	1	0	4	1
April	0	2	3	2	0	0	5	2
May	0	2	0	0	0	0	0	0
June	1	1	3	0	2	1	1	1
July	3	0	1	1	0	0	0	4
August	0	4	4	1	1	0	0	3
September	0	1	2	0	2	0	3	3
October	3	2	5	2	1	2	7	1
November	1	1	0	2	2	2	5	2
December	2	2	4	4	2	2	0	4
	14	26	33	18	13	10	41	26

Showing the number of times that cumulus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	5	5	8	4	1	3	4	5
February	5	4	9	5	6	3	4	7
March	10	10	9	5	5	3	2	7
April	6	7	3	2	1	1	3	8
May	4	8	5	4	2	1	4	7
June	1	1	3	1	0	1	1	3
July	3	4	0	0	1	1	2	1
August	6	7	3	6	4	4	5	7
September	10	5	4	6	3	3	5	7
October	8	6	3	1	3	5	5	5
November	7	6	9	5	4	4	4	6
December	8	7	10	5	2	9	18	8
	73	70	66	44	32	38	57	71

Showing the number of times that cumulo-stratus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0
March	0	0	1	1	1	1	2	0
April	0	0	5	1	2	1	3	0
May	0	0	0	1	0	0	0	0
June	0	0	0	0	0	0	0	0
July	0	0	1	1	0	0	0	0
August	0	0	1	0	0	1	0	0
September	0	0	1	0	0	0	3	0
October	0	0	0	0	0	0	3	0
November	0	0	1	2	0	1	2	0
December	0	0	0	3	2	2	4	1
	0	0	10	9	5	6	17	1

Showing the number of times that stratus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	2	0	1	2	2	2	1	1
February	1	3	5	4	0	1	4	1
March	1	1	3	1	0	0	3	1
April	1	1	1	1	0	0	0	1
May	1	1	0	0	0	0	0	1
June	2	0	0	1	0	0	0	0
July	0	1	0	1	0	0	0	1
August	3	1	1	1	0	0	0	2
September	0	1	0	1	0	0	1	0
October	2	0	2	1	0	0	5	0
November	0	0	2	1	1	1	5	2
December	0	2	4	0	0	0	2	1
	13	11	19	14	3	4	21	11

Showing the number of times that nimbus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	6	5	4	3	3	2	2	4
February	1	1	1	1	2	1	1	1
March	6	5	6	6	5	5	6	6
April	6	7	4	4	6	6	6	6
May	2	2	3	2	3	3	3	2
June	0	2	0	0	1	1	1	0
July	0	1	2	1	0	1	0	1
August	0	0	2	2	3	3	3	0
September	3	5	3	2	2	3	2	1
October	2	3	2	2	1	2	2	2
November	4	5	7	7	6	6	6	4
December	2	6	5	3	3	2	1	2
	32	42	39	33	35	35	33	29

LIST

OF

PUBLICATIONS PRESENTED TO THE LIBRARY

DURING

THE YEAR 1864.

LIST OF PUBLICATIONS PRESENTED TO THE LIBRARY DURING THE YEAR 1864.

Date.	Publications.	From whom received.
Jan. 19	Boston Harbor, a series of communications to the Boston Daily Advertiser, by Benj. A. Gould	Hon. F. W. Lincoln, jr.
20	Allgemeine Bibliographie. 1863. No. 7	F. A. Brockhaus.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1863. X	J. Perthes.
	Astronomische Beobachtungen auf der Sternwarte zu Bonn. Band V	Dr. F. W. A. Argelander.
	Jahresbericht am 14 Juin, 1863, dem Comite der Nicolai-Hauptsternwarte abgestattet-vom Director der Sternwarte	The Director.
23	Shooting Stars of November, 1863	Prof. H. A. Newton.
	Report of the Secretary of the Navy, with appendix. 1863	Wm. Faxon, esq.
27	Report of the Chief of the Bureau of Ordnance, Navy Department. 1863	Bureau Ordnance.
28	Abstracts of Magnetical Observations made at the Magnetical Observatory, Toronto, C. W. 1856–1862 inclusive, and parts of 1853, 1854, 1855	University of Toronto.
	Meteorological Observations at Toronto Observatory, April, 1856, to June, 1863	Same.
30	Nova Acta Regiæ Societatis Scientiarum Upsaliensis. Seriei Tertiæ. Vol. IV. Fasc. II. 1863.	Societe Royale des Sciences à Upsal.
	Meteorologiska Jakttagelser i Sverige. Band 2, 3	L'Academie Royal Suedoise des Sciences.
	Eugenies Resa: Fysik. Band 1. (In Swedish and French.)	Same.
Feb. 3	Annales Hydrographiques. 3d Trimestre de 1863	Depot des Cartes et Plans de la Marine.
12	Memoirs of the Royal Astronomical Society. Vol. XXXI	Royal Astronomical Society.
	Astronomical, Magnetic, and Meteorological Observations made at the Royal Observatory, Greenwich, in 1861	Royal Observatory, Greenwich.
22	Schriften der Natuforschenden Gesellschaft in Danzig. Neue Folge, 1st Band, 1st Heft.	Natuforschenden Gesellschaft in Dansig.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. Petermann. XI. 1863	Justus Perthes.
	Jagttagelser over Kometen. 1862. II	H. Mohn. Christiania.
	Om Astronomiske og geodetiske Observationer	Kongelige Norse Universitet.
	Atlas des Nordlichen Gestirnten Himmels. 1855	F. W. A. Argelander.
	Notice to Mariners. Nos. 1 to 7, inclusive	Admiralty, London.
March 1	Anuario del Real Observatorio de Madrid. 1864	Real Observatorio de Madrid.
4	Abstract of Meteorological Observations made at Milwaukie, Wis. by J. A. Lapham, LL. D.	J. A. Lapham.
	Bulletin de la Societe Imperiale des Naturalistes de Moscow. 1863. Nos. 1 and 2	Soc. Imp. des Naturalistes, Moscow.
	Sitzungsberichte der Konigl.-bayer Akademie der Wissenschaften zu Munchen. 1862 and 1863	Konigl.-bayer. Akademie der Wissenschaften.
16	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1863. XII	Justus Perthes.
	Astronomical and Meteorological Observations, Radcliffe Observatory, Oxford, for 1861	The Radcliffe Trustees.
21	Annals of the Astronomical Observatory of Harvard College. Vol. I, Pt. II. Vol. II, Pt. I.	The Astronomical Observatory, Harvard College.
24	Annuaire de la Societe Meteorologique de France. Tome 9. 1861. Premiere partie. F. 1–10.	La Societé Meteorologique.
	Annalen der K. Sternwarte bei Munchen. IV. Supplement Band	Royal Observatory, Munich.
	Erdmagnetismus	Same.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1856. VI, VII, X, XI, XII. 1860. I to XII. 1861. I, II. Erganzungsheft. Reise von Trapezunt nach Skutari, von Dr. H. Barth. Reise durch die Andes, von J. J. v. Tschudi. Kusten und Meer Norwegens. Von A. Vibe	Justus Perthes.
April 13	Report of the Commissioner of Agriculture for the year 1862	Department of Agriculture.
21	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1864. I	Justus Perthes.
May 4	Notices to Mariners. Nos. 8 to 12	The British Admiralty.
16	Proceedings of the American Academy of Arts and Sciences. Vol. VI, pages 97–236	American Academy of Arts and Sciences.
20	Monthly Meteorological Register, Provincial Magnetic Observatory, Toronto, C. W. October, 1863, to January, 1864	Provincial Magnetic Observatory, Toronto.
21	Memoire sur l'expression du rapport qui existe en vertu de la chaleur d'origine entre le refroidissement de la masse totale du globe terrestre et le refroidissement de sa surface. Jean Plana	Baron J. Plana.
24	Annuaire de la Societé Meteorologique de France. Tome VIII. Pt. 1st. F. 16–21. Tome XI., Pt. 2. F. 7–18	La Societe Meteorologique.
	Die Sonne und ihre Flecken. Dr. R. Wolf	Dr. R. Wolf.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1864. II. Erganzungsheft. No. 12	Justus Perthes.
26	Uitkomsten van wetenschap en ervaring aangaande winden en zeestroomingen in sommige gedeelten van den ocean, uitgegeven door het Koninklijk Nederlandsch Meteorologisch Instituut te Utrecht, in 1863. Atlas to the same. 6 copies each	Koninklijk Nederlandsch Meteorolog. Instituut.
June 2	Sur une Méthode Nouvelle proposée par M. De Littrow pour determiner en mer l'heure et longitude par H. Faye	M. de Littrow.
	Report of the Committee of Overseers of Harvard College, appointed to visit the Observatory in 1863, and Report of Director.	Prof. G. P. Bond.
10	Report of the Astronomer in charge of the Dudley Observatory for the year 1863	The Dudley Observatory.
	Sea Chart: Goeree in R. Maas, with Pamphlet and Description, &c. Hacingvliet Krammer, Volkzak & Hollancloch Diep. (R. Maas)	The Dutch Government.
	Topographical Map of the Department of Twenthe, in the Province of Overyssel, Holland, with its surroundings	Same.
16	Proceedings of the Royal Society of England. 71 Nos	The Royal Society of London.
	Journal of the Royal Geographical Society. Vol. 32	Royal Geographical Society.
	A General Catalogue of the principal fixed Stars from Observations made at the Hon. E. I. Company's Observatory, Madras. 1830–1843. T. G. Taylor	The Madras Government.
	Astronomical Observations at Hon. E. I. Company's Observatory at Madras, in 1843–1847, and 1848–1852	Same.
	Annual Report of the Trustees of the Museum of Comparative Zoology, together with Report of Director. Boston. 1863.	Prof. L. Agassiz.

Date.	Publications.	From whom received.
June 16	Annalen der K. K. Sternwarte in Wien. 3 Folge. 12 Band. 1862	K. K. Sternwarte in Wien.
	Meteorologische Beobachtungen an der Wiener Sternwarte von 1775 bis 1858. Vierter Band. 1823–'38	Same.
25	Smithsonian Miscellaneous Collections. Vol. 5	The Smithsonian Institution.
	Smithsonian Contributions to Knowledge. Vol. XIII	Same.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1864. III and IV	Justus Perthes.
	Bulletino Meteorolog. dell'Observatorio del Collegio Romano. Vol. I. 1861. Vol. II. 1862	The Roman College.
	Memoire dell'Observatorio del Collegio Romano, D. C. D. S. Nuova Serie. Vol. II. 1860–'63	Same.
July 1	Report of the Astronomer Royal to the Board of Visitors of the Royal Observatory, Greenwich. 1864	G. B. Airy, Astronomer Royal.
18	Observations of Spots on the Sun from November 9, 1853, to March 24, 1861. Made at Red Hill. R. C. Carrington	Royal Society of London.
	Philosophical Transactions of the Royal Society of London for the year 1863. Vol. 153, Part II	The Royal Society.
	Mittheilungen der K. K. Geographischen Gesselschaft VI. Jahrgang. 1862	The Imperial Geographical Society, Vienna.
22	Rapport à S. E. le ministre de la Marine sur une mission accomplie en Angleterre pour etudier les questions relatives à la regulation des compass, par M. Darondeau, Ingenieur Hydrographe de 1ere classe	Capt. M. Devarenne.
28	Notices to Mariners. Nos. 31 and 32	Hydrographic Office, London.
August 8	Monthly Meteorological Register at the Provincial Magnetical Observatory, Toronto, C. W. 1864. February to May, 1863. September, 2 copies	Provincial Magnetic Observatory, Toronto.
10	Verhaltniss der Atmospharischen luft zu dem in derselben befindlichen Wasserdampffe	Dr. Lamont.
12	Notices to Mariners. Nos. 33 to 35	Hydrographic Office, London.
26	Notices to Mariners. No. 36	Same.
	Observatorio Magnetico y Meteorologico del Real Collegio de Belen de la Compania de Jesus en la Habana, Resumen de las observaciones del Mes de Abril, 1864	Real Collegio de Belen.
	Observatorio Magnetico y Meteorologico del Real Collegio de Belen de la Compania de Jesus en la Habana, Resumen de las observaciones del Mes de May, 1864	Same.
Sept. 4	Notices to Mariners. Nos. 37–39	Hydrographic Office, London.
14	On the Direction of the Wind at Manchester during the years 1849–1861, at 8 a. m. G. V. Vernon	G. V. Vernon, esq.
	On the number of days on which rain falls annually at London, from observations during the year 1862. G. V. Vernon	G. V. Vernon, esq.
	On the rain-fall at Oldham during the years 1836–'62, by John Heap, esq., with remarks by G. V. Vernon, Esq	G. V. Vernon, esq.
23	Notices to Mariners. Nos. 40–43	
26	Ephemerides Astronomicas calculadas para o Meridiano do Observatorio da Universidade de Coimbra para o anno 1865	Observatory of the University of Coimbra.
Oct. 11	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1864. V, VI. Erganzungsheft. No. 13	Justus Perthes.
	Natuurkundige Verhandelingen van de Hollandsche Maatschappij der Wetenschappen te Haarlem. Tweede Verzameling. XVIII. Deel	Dutch Society of Sciences, Haarlem.
	Memorias de la Real Academia de Ciencias de Madrid en el año Academico de 1861–1862	Royal Academy of Sciences, Madrid.
	Resumen de las Actas de la Real Academia de Ciencias de Madrid en el año Academico de 1861–1862	Same.
	Sitzungsberichte der k. Akademie der Wissenchaften. Math.-natur. 1863. I Abtheil. Nos. 45, 6, 7, 8, 9, 10. 1863. II Abtheil. Nos. 5, 6, 7, 8, 9. 1864. I Abtheil. No. 1. II Abthiel. No. 1	The Royal Academy of Sciences, Vienna.
	Denskchriften der k. Ak. der Wissenchaften. Mathm.-natuur. Classe, XIII. Band	Same.
	Libros del Saber de Astronomia del Rey D. Alfonso X de Castilla. Tome I, II	The Royal Academy of Sciences, Madrid.
	Ubersichten der Witterung in Osterreich und Einigen Auswartigen Stationen. 1856–'62. 7 vols	The Meteorological Institute, Vienna.
	Annalen der koniglichen Sternwarte bei Munchen. XII. Band	The Royal Observatory of Munich.
	Der Magnetiske declination i Christiania udledet af Observationer. 1842–'62. H. Mohn	H. Mohn.
	Die Regenverhaltnisse des Konigreichs Hanover. Von Dr. M. A. F. Prestel	Dr. Prestel.
19	Observatorio Magnetico y Meteorologico del Real Colegio de Belen. Resumen de las Observaciones de Junio, 1864, and Julio, 1864	Real Colegio de Balen.
20	Mittheilungen aus Justus Perthes' Geographischer Anstalt, &c. 1864. VII	Justus Perthes.
	Annuaire de la Societé Meteorologique de France. Tome XII. Bulletin des Seances. F. 1–13. 1864	La Societe Meteorologique de France.
	Uber das von Hern W. Lassell in Malta auf gestellte Spigelteleskop. Von O. Struve	The Observatory at Pulkova.
	Die Zeitbestimmung vermittelst des Tragbaren Durch-gangsinstruments im verticale des Polarsterns. W. Dollen	Same.
	On the Right Ascension of the Pole Star as determined from Observation. T. H. Safford	The Observatory of Harvard College.
	Notices to Mariners. Nos. 44, 50, 51–56	Hydrographic Office, London.
Nov. 5	Results of the Meteorological Observations in the Colony of Victoria, 1859–'62, and Nautical Observations collected and discussed at the Flagstaff Observatory, Melbourne. 1858–'62	The Government of Victoria.
	Uber den vielfachen Schweif des grossen Cometen von 1744. Von A. Winnecke	The Observatory at Pulkova.
17	Notices to Mariners. Nos. 57–60	Hydrographic Office, London.
25	Resumé Meteorologique de l'Année 1862. Pour Genéve et le Grand St. Bernard. E. Plantamour	E. Plantamour.
	Resumé Meteorologique de l'Année 1863. Pour Genéve et le Grand St. Bernard. E. Plantamour	Same.
	Determination Telegraphique de la difference de Longitude entre les Observatoires de Genéve et de Neufchatel. Par E. Plantamour, A. Hirsch	The authors.
	A General Catalogue of Nebulæ and Clusters of Stars arranged in order of right ascension and reduced to the common epoch 1860.0. Sir J. F. W. Herschel	The author.

Date.	Publications.	From whom received.
Nov. 25	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1859. XI, XII. Do. 1864. VIII	Justus Perthes.
	Neunundvierzigster Jahresbericht der Naturforschenden Gesselschaft in Emden. 1863	Naturforschenden Gesellschaft in emden.
	Kleine Schriften der Naturforschenden Gesselschaft in Emden. No. XI	Same.
29	Notices to Mariners. Nos. 61, 62	Hydrographic Office, London.
Dec. 3	H. Wild. Bericht uber die Meteorologischen Arbeiten im Kanton Bern im Jahr 1861	Prof. H. Wild.
6	Bericht de Meteorol. Contralstation im Bern von Jahr 1862–'63	Same.
	Nederlandsch Meteorol. Jaarboek. 1863	L'Institut. Royal Meteorologique des Pays-Bas.
	Refractors Beobachtungen der K. Univ.-Sternwarte in Upsala. February, 1862, bis January, 1864	Royal Observatory, Upsaa.
	Ueber die deviationen des compasses welche dursch das Eisen eines Schiffes vernsfacht werden. Dr. F. Schaub	Hydrographischer Anstalt, Triest.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1864. IX	Justus Perthes.
	Effemeridi Astronomiche di Milano. Per l'anno 1862	Royal Observatory, Milan.
	Effemeridi Astronomiche di Milano. Per l'anno 1863	Same.
	Riassunti delle Osservazioni Meteorologische eseguite Nella R. Specola Astronomica di Milano nelgi anni 1848 al 1859, inclusive, calcolate dell abate Giovani Capelli	Royal Observatory, Milan.
	Nova Acta Regia Societatis Scientiarum Upsaliensis. Seriei Tertiæ. Vol. V. Fasc. I, 1864	Royal Society of Upsala.
	Annuaire de la Societé Meteorologique de France. Tome XI. Bulletin des Sceances. F. 19–25. 1863	Societé Meteorologique de France.
	Abstracts of Meteorological Observations made at the Magnetical Observatory, Toronto, C. W., during the years 1854 to 1859, inclusive	The Magnetic Observatory, C. W.
	Results of Meteorological Observations made at the Magnetical Observatory, Toronto, 1860–1862	The Magnetic Observatory, Toronto.
	Bewolkung in Christiania. Von H. Mohm	H. Mohm.
12	Report of the Commissioner of Patents. 1861. Arts and Manufactures. Vols. I and II.	Commissioner of Patents.
	Results of Meteorological Observations made under the direcion of the U. S. Patent Office and the Smithsonian Institution, from the year 1854 to 1859, inclusive. Vol. II, Part I	The Smithsonian Institution.
	Report of the Superintendent of the U. S. Coast Survey for 1862	Superintendent U. S. Coast Survey.
16	Observatorio Magnetico y Meteorologico del Real Colegio de Belen. 1862. July, August, September, November, December. 1863. July to December. 1864. January, February, March, August, September, October	Real Colegio de Belen.
21	Notices to Mariners. Nos. 63–69	Hydrographic Office.
31	Edinburgh Astronomical Observations	The Royal Observatory, Edinburg.
	Monthly Meteorological Register, Provincial Magnetic Observatory, Toronto. 1864. June to September. Two copies	The Observatory, Toronto, C. W.
	Let og noiateg meshode fa bestemmelse af den paakommende Bredde og Længde om middagen samt compassets misvisning, uden hjœlp af logarithmer af J. J. Astrand	J. J. Astrand.
	Monthly Notices Royal Astronomical Society during the year	Royal Astronomical Society.
	Bulletin International de L'Observatoire Imperiale de Paris for the whole year	Imperial Observatory, Paris.
	Bulletin Mensuel de la Societé Imperiale Zoologique d'Acclimatation during the whole year	Imperial Zoological Society of Acclimatation.
	Proceedings of the Royal Society of London during the whole year	Royal Society of London.
	Proceedings of the Royal Geographical Society during the whole year	Royal Geographical Society, London.

CATALOGUE

OF

THE LIBRARY.

ASTRONOMY.

I. Treatises on Astronomy.

ADAMS, (George.) Astronomical and Geographical Essays. London, 1812.

AIRY, (G. B.) Theory of Errors of Observation. London, 1861.

ALFONSO, (X.) Libros del Saber de Astronomía del rey D. Alfonso X. de Castella. Don Manuel Rico y Sinobas. Madrid, 1864. 3 v.

ANQUETIL, (J. P.) Questions sur l'Astronomie. Paris, 1835.

ARAGO, (F.) Astronomie Populaire. Paris, 1861. 4 v.

BAYERI, (F.) Uranometria. 1603.

BERLIN Academy of Science. Recherches sur l'Ancienne Astronomie Chinoise. 1837.

BIOT, (J. B.) Traité Éléméntaire d'Astronomie Physique. Paris, 1841.

BOHNBERGER, (F. G. O.) Astronomie. Tubingen, 1811.

BOUVIER, (Hannah M.) Familiar Astronomy. Philadelphia, 1856.

BOWDITCH, (N., LL. D.) Mécanique Céleste, by the Marquis de La Place. Translation. Boston, 1829. 5 v.

BRADFORD, (D.) The Wonders of the Heavens. Boston, 1857.

BRETT, (W., A. M.) The Principles of Astronomy. Cambridge, (Eng.,) 1832.

BRACCIOLI, (F.) Trattato della Sphera. Venet., 1543.

BURGESS, (Rev. E., Miss'y A. B. C. F. M.) Translation of the Sûrya-Siddhânta; a text-book of Hindu Astronomy. 1860.

BURRITT, (Elijah H.) Geography of the Heavens and Class-Book of Astronomy. New York, 1860. (With Atlas.)

BRÜNNOW, (F. Ph., Dr.) Spherical Astronomy. London, 1865.

——— Lehrbuch der Sphärischen Astronomie. Berlin, 1851.

CASSINI, (M.) Élémens d'Astronomie. Paris, 1740.

CHAMBERS, (Geo. F., F. R. G. S.) A Handbook of Descriptive and Practical Astronomy. London, 1861.

CHAUVENET, (W., Prof. Mathematics and Astronomy.) A Manual of Spherical and Practical Astronomy. 2 v. 1864.

COUSIN, (M.) Introduction à l'Étude de l'Astronomie Physique. Paris, 1787.

DICK, (Thomas.) Celestial Scenery. Edinburgh, 1838.

DIEN, (Ch.) Description et Usages de l'Uranographie.

——— Atlas des Phénomènes Célestes. Paris, 1843.

ENCYCLOPEDIA of Astronomy: Airy; Barlow; Herschel; Kater.

FLAMSTEED, (I.) Atlas Celestis. London, 1729.

FRANCŒUR, (L. B.) Astronomie Pratique. Paris, 1840.

——— Uranographie ou Traité éleméntaire d'Astronomie. Paris, 1837.

GAMACHES, (M. de.) Astronomie Physique. Paris, 1740.

GREGORY, (David, M. D.) The Elements of Physical and Geometrical Astronomy. London, 1726. 2 v.

GREGORY, (O.) A treatise on Astronomy. London, 1803.

HARDING, (C. L.) Atlas Celestis Novus. Gottingen, 1822.

HYGINI Astronomicon. Venet. Erhard Radolt, 1482.

H———, (M.) Le Globe Celeste. Paris, 1820.

HERSCHEL, (Sir J. F. W., Bart., K. K.) Outlines of Astronomy. Philadelphia, 1861.

INSTITUTIONS Astronomiques. Paris, 1846.

JAMIESON, (A.) Atlas Celestial. London, 1822.

JAHN, (G. A., Dr.) Wöchentliche Unterhaltungen für dilettanten und Freunde der Astronomie, Geographie, und Witterungskunde. Leipsig. 1847–1852. 3 v.

KEPLER, (J. M. P.) Epitome Astronomiæ Copernicanœ. Francoferti, 1635. 12°.

——— Ad Vitellionem paralipomena quibus Astronomica pars optica traditur. Francoferti, 1604.

KEPLER Astronomische Weltansicht. Leipsig, 1849. Dargestellt von Dr. Ernst. F. Apelt.

KEILL, (J.) Introductiones ad veram physicam et veram Astronomicam. London, 1725.

KITCHINER, (J.) Observations on Telescopes. London, 1818.

LA PLACE, ŒUVRES DE. Paris, 1843. 6 v.

LITTROW, (J. J.) Callendariographie. Wien, 1628.

——— Vorlesüngen über Astronomie. Wien, 1830. 2 v.

——— Theoretische und practische Astronomie. Wien, 1821. 3 v.

LOOMIS, (E., LL.D. Prof. Mathematics and Nat. Phil., N. Y.) An Introduction to Practical Astronomy. 1855.

LONGOMONTANO, (C. S. F.) Astronomicæ Danicæ. Appendix. Amsterodami, 1622.

LOUPOT, (C.) Élémens d'Astronomie. Paris, 1842.

MAIRE AND BOSCOVITCH. Voyage Astronomique et Géographique. Paris, 1760.

MANN, (R. J.) The Planetary and Stellar Universe. London, 1845.

MAUPERTIUS, (M. de.) Astronomie Nautique, ou Élémens d'Astronomie tant pour un Observatoire fixe que pour un Observatoire mobile. Paris, 1743.

MELANDERHJELM, (Daniel.) Conspectus prelectionum Academicorum Continens Fundamenta Astronomica. Upsalæ, 1779.

MCINTIRE, (J.) A treatise on the use of the Globes. 1823.

MITCHEL, (O. M., Prof. LL. D., late Major Gen. U. S. Army.) The Astronomy of the Bible. New York, 1863.

MOLLET, (J.) Étude du Ciel. Lyon, 1803.

MORRISON, (R. G., Lieut. R. N.) The Solar System as it is, and not as it is represented to be. London, 1857.

NARRIEN, (J.) Practical Astronomy and Geodesy. London, 1845.

NEWTON, (Isaac, Eq. Aur.) Philosophiæ Naturalis Principia Mathematica. Glasguœ, 1833.

NICHOL, (J. P., LL. D.) Thoughts on some important points relating to the System of the World. London, 1848.

NICOLAI, (K. H.) Wegweiser durch den Sternhimmel. Berlin, 1814.

NORTON, (W. A.) An Elementary Treatise on Astronomy. N. Y., 1859.

ORIANI, (B.) Opuscula Astronomica. Mediolani, 1788–'89.

PEARSON, (W., LL. D.) An Introduction to Practical Astronomy. London, 1824. 2 v.

PONTÉCOULANT, (M. G. de.) Théorie Analytique du Système du Monde. Paris, 1829. 3 v.

ROMANO COLLEGIO. Mappa di Stelle Secondo i Loro Diveni Colori.

SANTINI, (G.) Elementi di Astronomia. Padova, 1830.

SÉDILLOT, (A. L. P. E.) Prolégomènes des Tables Astronomiques D'Ouloug—Beg.

SÉDILLOT, (J. J.) Traité des instruments des Arabes. 2 v.

SÉJOUR DU DRONIS. Traité Analytique des Mouvemens Apparens des Corps Céléstes. 2 v.

SCHUBERT, (F. W.) Astronomie Populaire. Hamburg, 1834. 3 v.

——— Astronomie Spherique. 1 v. Rationelle, 1 v.

SCHUMACHER, (H. C.) Populaire Vorlesungen über Wissenschaftliche Gegenstande, F. W. Bessel. Hamburg, 1848.

STRUVE, (F. G. W.) Études d'Astronomie Stellaire. 1847.

VALDERUS. Spheræ atque Astrorum Cœlestium ratio natura et motus. MDXXXVI.

WALLACE, (J. R.) A new treatise on the use of the Globes. 1812.

WÆRNER, (J.) Short Cosmogony. Philadelphia, 1847.

WHITNEY, (W. D., Prof. Sanksrit Yale College.) On the views of Biot and Weber on Hindoo and Chinese Asterisms.

WOODHOUSE, (R., A. M., F. R. S.) A treatise on Astronomy, Theoretical and Practical.

II. Special Treatises, &c.

D'ALEMBERT, (M.) Recherches sur la précession des Equinoxes. Paris, 1749.

APELT, (E. F.) Die Reformation der Sternkunde. Jena, 1852.

BEER & MÄDLER. Der Mond. Berlin, 1837.

BENSENBERG, (Von J. F.) Ueber die Bestimmung der Geographischen Lange durch Sternschuppen. Hamburg, 1802.

BÉRON, (P.) Aperçu de la Physique Céleste. Paris, 1865.

BESSEL, (F. W.) Astronomische Untersuchungen. Königsberg, 1842.

——— Untersuchungen über die Lange des Einfachen Secundenpendels. Berlin, 1828.

——— Bestimmung der Lange einfachen Secundenpendels fur Berlin. 1837.

——— Untersuchung der Grösse und des Einflusses des Vorrückens der Nachtgleichen. Berlin, 1815.

BERNOUILLI, (D.) Recherches Physiques et Astronomiques. Paris, 1808.

BIOT, (M.) Recherches sur les réfractions Extraordinaires. Paris, 1810.

BRADLEY, (Rev. Jas., D. D., F. R. S.) Miscellaneous Works and Correspondence. Oxford, 1833.

BRAHEI, (Tychonis.) Vita. 1665.

BUQUOY, (G.) Erläuterungen und Zusäte zu dem dritten Theile von Herrn Schubert's Theoretischer Astronomie nemlich zu dessen physischer Astronomie. Leipsig, 1811.

CLAIRAULT, (M.) Théorie de la Figure de la Terre. Paris, 1743.

DOPPLER, (C.) Über eine bei jeder Rotation des Fortpflanzungs, Mittels eintretende eigenthümliche Ablenkung der Licht-und Schallstrahlen. Prag, 1841.

ENCKE, (J. F.) Die Entfernung der Sonne von der Erde aus dem Venus. Gotha, 1822.

HALLASCHKA, (Cassiano) Elementa Eclipsum quas patitur Tellus, Luna eam inter Solem versante. 1810–1860. Pragæ, 1816.

HANSEN, (M.) Memoire sur la détermination des perturbations absolues dans les eclipses d'une eccentricité et d'une inclinaison quelconques. Gotha. Paris, 1845.

HANSEN, (P. A.) Untersuchung über die gegenseiten Störungen des Jupiters und Saturns. Berlin, 1831.

HAUGHTON, (Rev. S., M. A.) The Solar and Lunar diurnal Tides on the Coast of Ireland. Dublin, 1855.

HOECK, (M.) Recherches Astronomiques de l'Observatoire d'Utrecht. La Haye, 1861.

JANVIER, (A.) Des Revolutions des Corps Célestes. Paris, 1812.

KENDALL, (E. O.) On the longitude of several places in the United States, as deduced from the Observations of the Solar Eclipse. Philadelphia, 1838.

LAGRANGE, (J. L.) [Mémoires sur la Classe des Sciences.] Sur la Variation des Planètes. 1808.

La PLACE, DE. Rapport fait à la Chambre des Deputés, sur la reimpression des Oeuvres. 1842.

LITTROW, (J. J.) Darstellung der grossen und merkwürdigen Sonnenfinsterniss des 7 Sept., 1820.

LONGITUDES and Latitudes of Venus and Jupiter. London, 1822.

MÄDLER, (Dr. J. H.) Untersuchungen über die Fixstern-Système. Erster Thiel. Leipsig, 1847.

MÄDLER. Die Centrale Sonne. Dorpat, 1846.

MITCHEL, (O. M.) The Sidereal Messenger. Cincinnati, 1848.

PETERS, (C. & F.) Ueber die Bestimmung des Langenunterschiedes Zurischer, Altona, und Schwerin. Altona, 1861.

RIDDLE, (E.) On deducing the Longitude from an observed occultation of a fixed star by the Moon. 1830.

RUMKER, (C.) Ueber die Berechnung der Sonnenfinsternisse. Hamburg, 1837.

SCHUMAKER, (H. C.) Astronomische Abhandlungen herausgeben. Altona, 1832.

SCHROTERS, (J. H.) Beytrage zu den Neuesten Astronomische Entdeckungen. Berlin, 1788. 4 v.

STRUVE, (F. G. W.) Sur le Coefficient Constant dans l'aberration des Étoiles fixes. St. Petersburg, 1843.

——— Astronomische Orbsbestimmungen. St. Petersburg, 1846.

SESTINI, (P. B.) Memoria Sopri i colori delle Stelle del Catalogo di Bailly. Roma, 1845. 1st and 2d Nos.

MEMOIRS of the Royal Astronomical Society.

MONTHLY Notices of the Royal Astronomical Society.

MONATLICHE correspondens zür beforderung den Erd-und-Himmels Kunde. Von F. Zach. 1800–1813.

ZEITSCHRIFT für Astronomie und verwandte Wissenschaften. Tubingen, 1816. 6 v.

ZOLLNER, (J. C.) Photometrische Untersuchungen. 1865.

Theories.

EULER, (Leonardo.) Theoria Motuum Planetarum et Cometarum. Berolino, 1744.

GAVSS, (C. F.) Theoria Motvs Corporvm Coelestivm in Sectionibus Conicis Solem ambientivm. 1809.

——— The same, translated by C. H. Davis, Com. U. S. N., Superintendent U. S. Nautical Almanac, (with an appendix.) Boston, 1857.

CLAIRAULT, (M.) Théorie de LA LUNE deduite du seul principe de l'attraction. Paris, 1865.

HANSEN, (P. A.) Fundamenta Nova investigationis orbitæ veræ quam Luna perlustrat. Gothæ, 1838.

HEVELII, (Johannis.) Selenographia. Gedani, 1647.

DE LAUNAY, (Ch.) Théorie du Mouvement de la Lune. Paris, 1860.

LUBBOCK, (J. W.,) F. R. S. On the Theory of the Moon and on the Perturbations of the Planets. London, 1833.

MAYER, (Tobia.) Theoria Lunæ juxta Systema Newtonianum. London, 1767.

ORIANI, (B.) Theoria Planetæ Martis, Mercurii, et Urani. Mediolani. 1789. 4 v.

JEAN PLANA, Astronome Royal. Théorie du Mouvement de la Lune. Turin, 1832.

Neptune.

CHALLIS. Relative to the Planet NEPTUNE. 1847.

GOULD. Report on the history of the discovery of Neptune. Published by the Smithsonian Institution. 1850.

KOWALSKI. Recherches sur les Mouvemens de Neptune, suivies des Tables de cette Planète. Kasan, 1855.

NICHOL, (J. P.,) LL. D. The Planet Neptune; an exposition and history. Edinburgh, 1848.

NEWCOMB, (S., Prof., U. S. N.) An Investigation of the Orbit of Neptune, with General Tables of its Motion. (Published by the Smithsonian Institution.) Washington, D. C., 1866.

WACKERBARTH, (A. F. D.) Om Planeten Neptunus. Upsala, 1865.

Mercury, Saturn, Uranus.

ADAMS, (J. C., Esq., M. A.) An explanation of the observed irregularities in the motion of URANUS.

BOGUSLAWSKI, (Dr. Ph. L.) Uranus oder tagliche für Jederman fassliche, Uebersicht aller Himmelserscheinungen im Jahre, 1846. Glogau, 1845 to 1848.

LE VERRIER, (U. J.) Recherches sur l'orbite de Mercure et sur ses variations. 1843.

DU SEJOUR, (D.) Essai sur les phénomènes de l'Anneau de SATURNE. Paris, 1776.

PROCTOR, (R. A., B. A.) Saturn and his System. London, 1865.

Histories of Astronomy.

FERGUSON, (J., F. R. S.) Astronomy explained upon the principles of Sir Isaac Newton, (a History of Astronomy.) Edinburgh, 1841.

ASTRONOMY.

GRANT, (Robert.) History of Practical Astronomy, from the earliest ages to the middle of the 19th century. Edinburgh, 1852.
DE LAMBRE. Histoire de l'Astronomie Ancienne. 2 v.
——— Histoire de l'Astronomie du Moyen Age. 1 v.
——— Histoire de l'Astronomie aue Dixhuitième Age. 1 v.
——— Histoire de l'Astronomie Moderne. Paris, 1817. 2 v.
LA LANDE, (J.) Bibliographique Astronomie, 1781–1802. Paris, 1803
LA PLACE. Precis de l'Histoire de l'Astronomie.
KAISIR, (F.) De Geschiedenis der Ontdekkingen von Planeten. Amsterdam, 1851.
STRUVE, (W.) Recueil de Mémoires Presentés à l'Academie des Sciences pour les Astronomies de Pulkova. St. Petersbourg, 1853· 2 v.

On Comets.

ARAGO, (M.) Des COMÈTES en général, et en particulier de celles qui doivent paraitre en 1832–'35. Paris, 1834.
ARGELANDER, (F. W. A.) Untersuchungen über die Bahn des grossen Cometen. Von Jahre, 1811. Konigsberg, 1822.
DIE COMETEN. Berlin, 1744.
BESSEL, (F. W.) Untersuchungen über die scheinbare und wahre Bahn des und Jahre 1807 erschienen grossen Cometen, 1810.
CARL, (Dr. Ph.) Repertorium der Cometen Astronomie. Munchen, 1864.
COLE, (W.) Philosophical Remarks on the Theory of Comets. London, 1823.
FORSTER, (T. J. M.) Essai sur l'influence des Comètes sur les phénomènes de la Terre. Bruges, 1843.
ENCKE, (J. F.) Uber den Cometen von Pons. Berlin, 1831.
HASKINS, (R. W.) A popular Essay upon Comets. 1842.
HANCOCK, (Blyth.) The Astronomy of Comets.
LEGENDRE, (A. M.) Nouvelles methodes pour la détermination des orbites des Comètes. Paris, 1805.
OLIVER, (A.) Essai sur les Comètes. Amsterdam, 1777.
OLBERS, (W.) Abhandlung über die leichteste und bequemste methode die Bahn eines Cometen. Weimar, 1797.
PINGRÉ, (M.) Cométographie, ou Traité historique et Théorique des Comètes. Paris, 1784.
PONTÈCOULANT, (G. De.) Notice sur le Comète de Halley et son retour en 1833. Paris, 1833.
STRATTFORD, (W. S.,) Lieutenant R. N. On the elements of the orbit of Halley's Comet. London, 1837.
SCHUMACHER, (H. C.) Observationes Cometæ Anni 1585, Uraniburgi habitœ a Tychone Braheo.
STRUVE, (F. G. W.) Beobachtungen des Halleyschen Cometen bei Seinem Erscheinen im Jahre, 1835, Auf der Dorpater Sternwarte.
LE VERRIER, (U. J.) Recherches sur les Comètes periodiques.
WALKER, (S. C.) and KENDALL, (E. O.) Observations on Encke's Comet, at the High School Observatory, Philadelphia.
WEINNECKE, (Dr. A.) Pulkowaer Beobachtungen des Grossen Cometen von 1858. St. Petersburg, 1859.

Observatories and Instruments.

DESCRIPTION OF THE OBSERVATORY at Cambridge, Massachusetts. W. C. Bond. 1848.
LATITUDE of Cambridge Observatory. W. C. Bond, astronomer; Major J. D. Graham, U. S. A.; G. P. Bond; B. Peirce.
DESCRIPTION of the Transit Circle of the Royal Observatory, Greenwich.
DESCRIPTION of the Altitude and Azimuth Instrument at Greenwich. 1847.
REPORT on the Royal Observatory of Edinburgh. C. Piazzi Smyth. Edinburgh.
BESCHRIEBUNG der an der Münchener Sternwarte zu den Beobachtungen Verwendenten Neuen Instrumente und Apparate. Dr. Lamont. 1851.

LITTROW, (J. J.) Ueber lichte Faden im Denkelm Felde bei Meridien-Instrumenten.
RESLHUBER, (P. A.) Über Prof. Stampfer's Licht punkt Mikrometer
DESCRIZIONE de Alcuni Instrumenti da Misurare gli angoli per riflessione. Memoria del Cav. G. Battista Amici. Modena, 1836.
CONTRIBUTIONS to Astronomy and Geodesy. Thos. McLear, her Majesty's astronomer at the Cape of Good Hope. London, 1851.
DESCRIPTION de l'Observatoire Astronomique Central de Pulkova. F. G. W. Struve, 1845.
SCHREIBEN an den Herrn Dr. W. Olbers in Bremen. H. C. Schumacker enthaltend eine Nachricht über den Apparat. Altona, 1821.

Bound volumes of pamphlets, viz:

VOLUME I containing—

RECHERCHES sur l'Ancienne Astronomie Chinoise, 1837.
RECHERCHES sur l'Astronomie Indienne.
HINDU Almanac for 1st quarter, 1837.

VOLUME II containing—

1. STANDARD Mean Right Ascension of Circumpolar and Time Stars, prepared for the use of the U. S. Coast Survey. (A. D. Bache, Superintendent, 1862.)
2. ESSAY on the Theory of Attraction. J. K. Smythies. London, 1850.
3. MÉMOIRE sur l'orbite de la Comète périodique découverte par M. D'Arrest, 1851. J. C. Oudemans. Amsterdam. 1854.
4. ESSAI sur le mouvement propre en ascension droite de quelques étoiles. M. E. Quetelet. Bruxelles, 1859.
5. NARRATIO de parallaxi Stellæ *a* Lyræ. O. Struve.
6. UEBER Dr. Wichmann's Bestimmung der Parallaxe des Argelanderschen Sterns. W. Döllen.
7. SUR les dimensions des Anneaux de Saturne. M. O. Struve.
8. METHODE Geographische Breite und Azimut. J. G. Bohm. Prag., 1855.
9. ON the Total Solar Eclipse of 1851. Prof. C. Piazzi Smyth.
10. AN account of the Total Solar Eclipse of 1860, as observed near Steilacoom, Washington Territory. Lieut. J. M. Gilliss, U. S. N.
11. CONTRIBUTIONS to a knowledge of the Zodiacal Light. C. P. Smyth.
12. SUR deux inégalités d'une grandeur remarquable dans les Apparitions de la Comète de Halley. A. J. Angstrom. Upsal.
13. BEOBACHTUNGEN der K. Univ.-Sternwarte Dorpat. J. H. Mädler. 1859.
14. L'ECLIPSE Solaire du 18 Juillet, 1860.
15. A CATALOGUE of the Right Ascension of 1009 Stars contained in Catalogue of Brit. Association. Lord Wrottesley.
16. NOUVELLE Théorie du Mouvement de la Lune. M. de Launay.
17. CALCUL des variations séculaires des Moyens mouvements du périgé et du Nœud de l'Orbite de la Lune. Delaunay.
18. MÉMOIRE sur les inégalités séculaires des élémens des Planètes. M. J. Binet.
19. CALCUL des deux Inegalités lunaires à longues périodes découvertes par M. Hansen et dues à l'action perturbatrice de Venus. Delaunay.
20. ASTRONOMICAL Observations, by Rev. Thomas Catton, B. D. Reduced under G. B. Airy. 1853.

VOLUME III containing—

1. ON the use of a new Micrometer, &c. Boguslauski.
2. UNTERSUCHUNGEN über die Function I^{h}_{k}. C. T. Anger. Danzig, 1855.
3. DIE Constanten von Kremsmunster. Reslhuber.

ASTRONOMY.

4. DÉTERMINATION de la Latitude du Nouvel Observatoire d'Upsala. Dr. H. Schultz.
5. HESTIÆ Planetæ Minoris, XLVI. Elementa Nova. Cracoviæ, 1865.
6. DIE Methode der Orthogonalen projeksion. Rud. Skuhersky. Prag, 1858.
7. DE Stellæ β Lyræ Variabili Commentatio altera. F. Argelander. 1858.
8. DE Mutationibus quæ contingunt in Spectro Solari fixo. F. Zantedeschi.
9. UNTERSUCHUNGEN ueber Veränderliche eigenbewungen. G. F. J. Arthur Anwers. Koenigsberg, 1862.
10. DENKREDE auf Prof. F. A. Petrina. Dr. W. R. Weitenweber. Prag., 1856.
11. LONGITUDE by Lunar Culminations.
12. RESULTS of Experiments on the Vibrations of Pendulums. W. J. Frodsham.
13. OBSERVATIONS on Chronometers, from the Appendix to Captain Sir John Ross's Narrative of second Expedition.
14. DECLINATIONES Stellarum Fundamentalium Novæ ex Ultimis Ili Bessel Observationibus derivatæ. E. Luther.
15. UEBER die Verbesserung der Planeten Elemente aus Beobachteten oppositionen. J. G. Galle, Breslau.
16. SATURN'S Perturbation. Günther and others.
17. ELEMENTE und Eph. des Fayeschen Cometen.
18. OBSERVATIONS Astronomiques faites a l'Observatoire de Genève, 1857–'58.
19. ON the Longitude of Washington. Lieut. J. M. Gilliss.
20. RÉSULTATS des Opérations Géodésiques. M. M. G. Fuss, Sawitsch, et Sabler.

VOLUME IV containing—

1. THE Nebulæ in Andromeda. Bond, 1848.
2. THE Use of Equivalent Numbers. Bond, 1856.
3. RESULTS of Photometric Experiments on the Light of the Moon and Jupiter.
4. RELATIVE Brightness of the Sun and Moon.
5. CATALOGUE of declination of 532 Stars. Safford.

On Eclipses.

VOLUME V—

1. SOPRA l'Eclipse del Sole osservato a Modena, 1851. Bianchi.
2. BEOBACHTUNGEN und Wahrnehmungen totalen Sonnenfinsterniss, 1851.
3. BEOBACHTUNGEN und am 28 Juli, 1851. Otto Struve.
4. NOTICES of the Eclipse of 1861. Boston Courier.
5. TOTAL Eclipse of the Sun of July 28, 1851. Carrington.
6. OPTISCHE Untersuchungen. Totale Sonnenfinsterniss, 1851.
7. ECLIPSE du Soleil. Quetelet.
8. TOTAL Solar Eclipse of 1860. J. R. Hind.
9. VORAUSBERECHNUNG der Totalen Sonnenfinsterniss, 1860.
10. CONGIUNZIONE di Venere col sole, 1840. Stambucchi.
11. CONGIUNZIONE, (inferiore,) di Venere osservata, 1854. Bianchi.
12. OBSERVACIONES sobre el Eclipse Totale de Sol, 1865. Vergara.
13. LE VERRIER'S Letter on the Inter-mercurial Planets, &c.
14. THE Annular Eclipse of 1854. Smithsonian and Naut. Almanac.
15. THE Total Solar Eclipse of 1851. C. P. Smyth.
16. ECLIPSE Circular, &c., National Academy of Sciences, 1865.

On Sun Spots.

VOLUME VI—

1. MITTHEILUNGEN über die Sonnenflecken. Wolf. Nos. I to XII, and No. XVII. Dr. R. Wolf.
2. DIE Sonne und ihre Flecken. Dr. R. Wolf.

On Comets.

VOLUME VII—

1. DES Comètes Observées en Chine, &c., 1230–1640.

ASTRONOMY.

2. SWEEPING-EPHEMERIDES for the Comet of 1856.
3. UEBER die Bahn des Cometen VIII, 1858.
4. LA Cometa di Brorsen non a Guari Scoperta. Bianchi.
5. BESTIMMUNG der Bahn des Ersten Kometen, 1847.
6. BESTIMMUNG der Bahn des Ersten Kometen, 1853.
7. BESTIMMUNG der Bahn des Ersten Kometen, 1857.
8. THE Great Comet of 1861. Am. Jour. Science.
9. OSSERVAZIONI e Richerche Astronomiche Sulla Grande Cometa del Giugno, 1861. P. Secchi, Roma.
10. THE Comet II, 1861. G. P. Bond.
11. IAGTTAGELSER over Kometen, 1862, II. Mohn.
12. COMETS and Meteors, &c., the sources of the Earth's rotation. Berlin, 1854.
13. OUTLINE of the head of Donati's Comet.
14. NOTE sur la Comète de Donati.
15. W. A. NORTON on Donati's Comet.
16. LITHOGRAPHIC Map of the true course of Encke's Comet.
17. BERICHT über die Kometen, 975, 1264, 1556.
18. CORRESPONDENCE on the Medal from the King of Denmark.
19. ARTICOLI Astronomici. Bianchi.
20. OM Kometbanernes Indbyrdes Beliggenhed.
21. EPHÉMÉRIDÉS pour la recherche de la Comète périodique de d'Arrest' Villarceau.

On the Asteroids.

VOLUME VIII—

1. OPPOSITION der Calliope im Jahre, 1856.
2. ÜBER die Bahn der Calliope, &c.
3. ÜBER die Bahn des Planeten Thalia. Oeltsen.
4. ÜBER die Bahn der Nemausa und Europa.
5. ÜBER die Bahn der Ariadne.
6. ÜBER die Bahn der Eugenia.
7. ASTEROIDS for the years 1859 and 1865. (Supplement to Am. Ephemeris.)

VOLUME IX containing—

1. ADDRESSES of Presidents of the Royal Society.
2. SUR les Étoiles filantes périodiques Aôut, 1858.
3, 4. OBSERVATIONS des passages de la Lune et des Étoiles de même Culmination. Quetelet.
5. NOTE sur l'erreur probable d'un passage observé à la lunette Méridienne de l'Observatoire Royal de Bruxelles. Liagre.
6. OBSERVATIONS faites à l'époque où le plan des Anneaux de Saturne passait par le Soleil. O. Struve, 1862.
7. LAW of Rotation of Planets. Buisson.
8. SUR la difference des Longitudes entre Berlin et Bruxelles.
9. LES Travaux de l'Ancienne Académie de Bruxelles.
10. DIMOSTRAZIONE Spettroscopica, &c. Zantedeschi.

VOLUME X containing—

1. TWO Memoranda on the Objects and Construction of the American Ephemeris and Nautical Almanac. Com. C. H. Davis, U. S. N. 1860.
2. THE Practical and Scientific Value of the American Ephemeris and Nautical Almanac.
3. REPORT of the Secretary of the Navy, communicating, in answer to a resolution of the Senate, a Report of Lieutenant C. H. Davis. 1852.
4. RAPPORT addressé à M. Le Ministre de l'Intérieur. Quetelet, 1849.
5. DESCRIPTION of the Observatory at Haverford College, 1857. Reports of Com. of Overseers for 1861, '63, '64, '65.
6. REPORT of Astronomer, Dudley Observatory. 1863.
7. DESCRIPTION de l'Observatoire Météorologique et Magnétique à Utrecht.
8. JAHRESBERICHT dem Comite der Nicolai-Haupt-Sternwarte. 1864.
9. OM Astronomiske og geodetiske Observationer. Christiania.
10. INAUGURATION of the Dudley Observatory, 1856.

ASTRONOMY.

11. REPORT on the Observatories of the Rajah of Travancore. J. A. Brown.

VOLUME XI containing—

1. DIE absorption des Lichtes in isotropen Mitteln.
2. OBSERVATIONS du Satellite de Sirius. O. Struve.
3. ÜBER den Vielfachen Schweif des grossen Cometen von 1744, von A. Winnecke.
4. ÜBER das Von Herrn, W. Lassell in Malta aufgestellte Spiegelteleskop, von O. Struve.
5. NEUE Berechnung der Sirius parallaxe aus den am Cap der guten Hoffnung angestellten Beobachtungen—Gylden.
6. OBSERVATIONS de quelques nébulenses. O. Struve.
7. Über den gang der Pulkowaer Normaluhr. A. Wagner.
8. DER Tangenten-Maafsstab und die Komponenten-Tafel. Prestel.
9. MARS Beobachtungen. 1862. Schultz.
10. SPIRAL Character of the Great Nebula in Orion. Bond, (G. P.)
11. RECENT researches relating to Nebulæ. Gautier.
12. INSTRUCTIONS and Chart for Observations of Mars in right ascensions at the Oppositions of 1860. G. B. Airy.
13. Preis-Aufgaben der Mathematisch-naturwissenschaft-lichen Classe. Wien.
14. DESCRIZIONE di uno Spettrometro. Zantedechi.
15. NOTICE historique sur la vie et les ouvrages de Newton. Biot.

VOLUME XII containing—

1. INTORNO le trasformasioni delle Equazioni differenziali. Bianchi.
2. BEMERKUNGEN über das von Herrn M. Eble Überreichte. "Neue Zeitsbestimmungswerk."
3. ON the Right Ascension of the Pole Star. Safford.
4. ÜBER die proximitäten der Bahnen der Planeten und Kometen. Grunert.
5. ÜBER die Neusten Fortschritte der Astronomie. Dr. K. Hornstein. Wien, 1857.
6. ÜBER Helligkeitsmessungen bei Kleinen Fixsternen. Hornstein, 1860.
7. INTENSITÉ comparatif de la lumière refleche par la surface lunaire et celle de Venus.
8. COSMOGRAPHIE Observatoire Vraiment Populaire. Ouvière.
9. ROYAL Society Correspondence on the S. Telescope.
10. BETRACHTUNGEN über die Anordnung des Sternsystems. J. F. Encke.
11. SIGNIFICATIO Geometrico dei Primi Cinque Coefficienti. Bianchi.
12, 13. LITTERA del Sig. Prof. G. Bianchi.
14. RAGIONAMENTI di G. Bianchi Lette rel Sesto Congresso Scientifico Italiano. 1844.
15. SOPRA le occultazioni di Aldebaran e altre Stelle per la Luna. Bianchi.

VOLUME XIII containing—

1. ÜBER eine Astronomische Aufgabe. Grunert.
2. ÜBER Cometen und Cometen-Aberglauben. Wolf.
3. MITTHEILUNGEN über Sternschuppen und Feuerkugeln. Wolf.
4. ANZEIGE von einer auf der K. Univ-Sternwarte zu Bonn unternommen Durch musterung des Nordlichen Himmels. Fr. Argelander.
5. DETERMINACION de la latitud jeografica del Circulo Meridiano del Observatorio Nacional de Santiago. C. G. Moesta. 1854.
6. URANUS. W. G. Korn. Breslau, 1848.
7. ON the American Prime Meridian. J. Lovering.
8. INFORME sobre las observaciones hechas durante el Eclipse Solar, 1853. Santiago de Chile. C. Moesta.
9. ÜBER eine Geometrische Aufgabe. Grunert.
10 ÜBE Prof. Stampfer's Lichtpunkt-Mikrometer. Reslhuber.
11. STERNBEDECKUNGEN und Mondsterne beobachtet auf der K. K. Sternwarte in Krakau. Dr. Max. Weisse.

ASTRONOMY.

12. REPORT by Superintendent U. S. Coast Survey on the application of the galvanic circuit to an Astronomical Clock. S. C. Walker.
13. ERGANZUNGSBLÄTTER zu allen Converzationsleriten.

VOLUME XIV containing—

1. ÜBER Irradiation und einige audere Erscheinungen des Sehens. Vogel, 1852.
2. CONCISE Decimal Tables. T. Claxton.
3. ÜBER das System der Kleinen Planeten Zwischen Mars und Jupiter. D'Arrest.
4. OBSERVATIONES Magnæ Cometæ, 1843 and 1840. Weisse. Cracoviæ, 1845.
5. MITTHEILUNGEN über die Sonnenflecken von Dr. Rudolf Wolff. Zurich, 1856.
6. MAP of the Solar Eclipse of 1858. Rev. Thos. Hill, Mass. 1858.
7. DIE Sonnenfinsterniss, 1851. G. A. Jahn. Leipsig.
8. SUGGESTIONS to Astronomers for the observations of the Total Eclipse of the Sun, July 28, 1851. Com. of Brit. Association.
9. REVIEW of Herchel's Outlines of Astronomy. Christian Examiner. 1849.
10. REPORT on the Discovery of Neptune. B. Apthorp Gould, jr.
11. CORRESPONDENCE relative to the Award of the King of Denmark's Comet Medal.

VOLUME XIV containing—

1. ON the periodical Comet of Encke.
2. THE measurement of an Arc of Longitude between Royal Observatory of Greenwich and Feagh Main, Island of Valentia.
3. ON the discovery of Uranus.
4. MONTHLY Notices of Royal Astronomical Society.
5. TELEGRAPHIC operations for Longitude. A. D. Bache, Superintentendent U. S. Coast Survey. 1847.
6. MONATSBERICHTE über die Verhandlungen der Gesellschaft für Erdkunde in Berlin.
7. PROCEEDINGS of American Academy of Arts and Sciences. 1846.
8. REVIEW of Sir J. Herschel's Astronomical Observations at the Cape of Good Hope, 1834 to 1838.
9. AN Explanation of the observed irregularities in the Motion of Uranus. J. C. Adams.
10. THE Orbit of Neptune. S. C. Walker. 1847.
11. STORY of the New Planet Neptune.
12. CORRESPONDENCE between Dr. Gerling and Lieut. J. M. Gilliss and others respecting a new determination of the Solar Parallax proposed by Dr. G., and an Expedition for that purpose proposed by Lieut. J. M. Gilliss, U. S. N.
13. DER Astronomie. A. F. Wobius. Leipsig, 1844.

VOLUME XV containing—

1. LONGITUDE by Lunar Culmination.
2. ON the use of the Zenith and Equal Altitude Telescope. Captain T. J. Lee, U. S. Top. Engineers.
3. OBSERVATIONS on Nebulæ. Smith & Mason.
4. THE Nebulæ in Andromeda. Bond.
5. THE Nebula about the star θ Orionis. Bond.
6. SOME methods of computing the ratio of distances of a Comet from the Earth. Bond.
7. REPORT on the discovery of an 8th Satellite of Saturn.
8. RESEARCHES on the periodical Meteors of August and November. Walker, 1841.
9. SUR la Longitude de l'Observatoire Royal de Bruxelles, &c.
10. CHRONOMETERS.
11. RESULTS of Experiments on the Vibrations of Pendulums. Frodsham.
12. DISQUISITIO de Stella β Lyræ variabili. Argelander.
13. OCCULTATIONS visible in the United States in 1848.
14. EPHEMERIS of Neptune for the Opposition of 1848.

15. LONGITUDE of several places in the United States. E. O. Kendall. 1839.
16. ASTRONOMICAL Observations at Hudson Observatory. Latitude 41° 14′ 37″ N.; longitude 5h. 25m. 42s. W. Loomis.
17. BAHNBESTIMMUNG des von de Vico am 24 Jänner, 1846, entdeckten Cometen. Jelinck.
18. THE Comet of 1832, &c. Arago.

III. Observations.

ALTONA. Astronomische Nachrichten. 65 v.
——— Ergansungs-Heft Nachrichten. 1 v.
ASTRONOMICAL Observations made at the Armagh Observatory. T. R. Robinson, D. D.
ABO. Observationes Astronomicæ in Specula Universitatis Litterariæ Fennicoe factæ. 1824 to 1828. 3 v.
BAYLY, (Wm.) The Original Astronomical Observations made on the Voyage of the Resolution and Discovery in the North Pacific, by Capt. Jas. Cook, Lieut. Jas. King, and W. Bayly. London, 1782.
——— The Original Astronomical Observations made on a Voyage toward the South Pole, by W. Wales and Wm. Bayly. London, 1777.
BAILEY, (F.) An account of the Rev. John Flamsteed, the first Astronomer Royal, with his Catalogue. London, 1835.
BERLIN. Astronomische Beobachtungen auf der Königlichen Sternwarte zu Berlin Herausgegeben von Joh. Frs. Encke. 1840–'44. 2 v.
BISHOP, (G., F. R. S.) Astronomical Observations taken at the Observatory, South Villa, Regent's Park, London. 1839–'51.
BONN. Argelander, (F. W. A., Dr.,) Astronomische Beobachtungen auf der Sternwarte der K. R. F. W. Univ. zu Bonn. 1846. 5 v.
BIOT ET ARAGO. Recueil d'Observations Géodésiques Astronomiques et Physiques. Paris, 1821.
BOHM, (J. G.) Beobachtungen von Sonnen flecken. Wien, 1832.
BUSCH, (Dr.) Reduction of the Observations made by Bradley at Kew and Wansted. Oxford, 1838.
BRADLEY. Fundamenta Astronomiæ pro Anno MDCCLV deducta ex observationibus viri incomparabilis Jas. Bradley, 1750–'62. F. W. Bessel. Regiomontani, 1818.
BRIOSCHI, (Carlo.) Commentarj Astronomici della Speccola Reale di Napoli. Napoli, 1824–'26.
BRUXELLES. Annales de l'Observatoire de Bruxelles.
CADIZ. Observaciones Astronomicas hechas en Cadiz en el Observatorio Real. 1776 and 1777. 2 v.
LA CAILLE. Astronomia Fundamenta. Parisiis, 1757.
——— Cœlum Australe Stelliferum. Parisiis, 1763.
CAMBRIDGE. Astronomical Observations made at the Observatory of Cambridge, Eng.; Airy 1828 to 1835; Challis 1836 to 1860. 20 v.
——— Astronomical Observations made at St. John's College, Cambridge, in the years 1767 and 1768. Rev. Mr. Ludlam.
CARRINGTON, (C., F. R. S.) Observations on the Spots on the Sun. Redhill, London, 1863.
CHILE. The U. S. Naval and Astronomical Expedition to the Southern Hemisphere, 1849–'52, Lieut. J. M. Gilliss, Superintendent. v. 1, 2, 3, 5, and 6. [v. 4 not published.]
——— Observaciones Astronomicas hechas en el Observatorio Nacional de Santiago de Chile, 1853–'55. Dr. C. G. Moesta. Santiago, 1859.
DORPAT. F. G. W. Struve's Observationes Astronomicæ. 8 v., 1814 to 1838.
——— Beobachtungen der K. Univ. Sternwarte. J. H. Mädler. v. 9 to 14—1840 to 1859.
DUDLEY. Annals of the Dudley Observatory, v. 1, G. W. Hough, A. M., Director. Albany, N. Y., 1866.
DURHAM. Results of Astronomical Observations made at the Observatory of the University, Durham, 1846–1848. Rev. R. A. Thompson, B. A. 2 v., 1849.
GENEVA. Observations Astronomiques faites à l'Observatoire de Geneva. 1850 to 1854. Prof. E. Plantamour.
GEORGETOWN COLLEGE, (D. C.) Annals of the Astronomical Observatory of Georgetown College. v. 1, 1850.

GOOD HOPE, (Cape of.) Astronomical Observations made at the Royal Observatory, Cape of Good Hope, 1834. Thos. MacLear. v. 1.
——— Results of the Observations made by Rev. F. Fallows, at the R. Observatory, Cape of Good Hope, 1829–'31, reduced by G. B. Airy, esq., Astronomer Royal.
GOULD, (B. A.) Reduction of the Observations of Fixed Stars made by Joseph Le Paute d'Agelet, at Paris, 1783–1785. B. A. Gould. 1866.
EDINBURGH. Astronomical Observations made at the Royal Observatory, Edinburg, by Thos. Henderson, F. R. S. E. and R. A. S., 1836 to 1839, by C. Piazzi Smyth, from 1840 to 1859. 12 v.
GREENWICH. Astronomical Observations made at the Royal Observatory, Greenwich, 1750 to 1863.
——— Astronomical Results. 1 v. 1855 to 1859.
——— Reduction of the Observations of the Planets, 1750 to 1830. G. B. Airy, Astronomer Royal. 1845.
——— Reduction of the Lunar Observations, 1750 to 1851.
HARVARD COLLEGE. Annals of the Astronomical Observatory of Harvard College. v. 1, v. 2 pt. 1, v. 3, v. 4 pt. 1.
HERSCHEL, (Sir John F. W.) Results of Astronomical Observations made during the years 1834–'5–'6–'7–'8, at the Cape of Good Hope.
HERSCHEL, (Wm.) Verzeichnisse von Nebelflecken und Steinhaufen bearbeitet von Arthur Ausvers. Konigsberg, 1862.
HUMBOLDT. Recueil d'Observations Astronomiques, d'Operations Trigonométriques, et de Mesures Barométriques, redigées par J. Oltmanns. Paris, 1810. 2 v.
KÖNIGSBERG. Astronomische Beobachtungen auf der Koniglichen Universitats-Sternwarte in Königsberg. F. W. Bessel. 1816 to 1862. 33 v.
LA LANDE. Histoire Céleste Française J. De La Lande. Paris, 1801.
MADRAS. Results of Astronomical Observations made at the Hon. E. India Company's Observatory at Madras, T. G. Taylor, Astronomer, 1831 to 1852. 4 v.
MANNHEIM. Astronomische Beobachtungen auf der Grossherzoglichen Sternwarte zu Mannheim. E. Schonfield, Dr. 1 v. 1862.
LE MONNIER. Histoire Céleste ou Recueil de toutes les Observations Astronomiques. Paris, 1741.
MODENA. Atti del R. Osservatorio Astronomico di Modena. G. Bianchi. Modena, 1834.
MÜNCHEN. Annalen der K. Sternwarte bei München. Dr. J. Lamont. Bd. 1 to 14.
——— Observationes Astronomicæ in Specula Regia Monachiensi. Lamont. 1841, 1843. 2 v.
PALERMO. Giornale Astronomico e Meteorologico del Reale Osservatorio di Palermo. D. Ragona Direttore di esso R. Osservatorio. v. 1. 1855.
PARIS. Annales de L'Observatoire de Paris. Observations. Tome 1 to 8, and 12 to 19. Memoirs. Tome 6, 7.
——— Observations faites à l'Observatoire Royal de Paris, 1810 to 1828. 2 v.
PLANA, (J.) Observations Astronomiques 1822–'25, a l'Observatoire Royal de Turin, &c. J. Plana, Astronome Royal. 1828.
PREUSS. Astronomische Beobachtungen auf des Herrn Capt. Otto v. Kotzebue. E. W. Preuss. Dorpat, 1830.
RADCLIFFE. Astronomical Observations made at the Radcliffe Observatory, Oxford, 1840 to 1863. 23 v. and Catalogue.
SCHWERD, (F. M.) Astronomische Beobachtungen Angestellt auf der Sternwarte des König. Lyzeums in Speyer. Speyer, 1829.
SOLDNER, (J.) Astronomische Beobachtungen Angestellt auf der K. Sternwarte zu Bogenhausen von dem ordentlichen der Akad. der Wissenchaften. Munchen, 1821.
COLLEGIO ROMANO. Memoire dell Osservatorio dell Universita Gregoriana in Collegio Romano. Roma, 1850 to 1863. 10 v.
SAN FERNANDO. Observaciones hechas en el Observatorio Real de San Fernando en el año de 1833. 3 v.
SOUTH. Observations of the apparent distances and positions of 458 double and triple stars, made in the years 1823–'24–'25. Jas. South, Esq., F. R. S. London, 1826.

SOUCIET. Observations Mathématiques Astronom. et Géographiques E. Souciet, 1729. 3 v.

SYDNEY. Astronomical Observations made at the Sydney Observatory, 1859–'60. W. Scott. 2 v.

TENERIFFE. Report of the Teneriffe Astronomical Experiment of 1856. C. P. Smyth. London and Edinburgh, 1858.

UPSALA. Refractors Beobachtungen der K. Univ. Sternwarte in Upsala. 1862–1864.

WALES. Astronomical Observations made in the voyages for discovery in the southern hemisphere. W. Wales. London, 1788.

WASHINGTON. Astronomical Observations made at the Naval Observatory, Washington, 1838–1842, Lieut. J. M. Gilliss, U. S. N. 1 v. 8°.

——— Astronomical Observations made under the direction of M. F. Maury, Lieut. U. S. N., 1845 to 1850.

——— Commander J. M. Gilliss, Superintendent, 1861, 1862, 1863.

WIEN. Annalen der K. K. Sternwarte in Wien. Theil 1 to 20. Neuer Folge 1 to 14. 3d Folge 1 to 14.

IV. Ephemerides, Almanacs, &c.

AMERICAN Ephemeris and Nautical Almanac, 1855 to 1867. 13 v.
Supplements to the same, 1862 to 1867. 1 v.

ASTRONOMICAL Journal. B. A. Gould. Boston. v. 1 to 6.

AMERICAN Almanac, 1831 to 1864. 34 v.

BRITISH Nautical Almanac, 1767 to 1869. 103 v.

THE British Almanac for the Society for the Diffusion of Useful Knowledge, 1848, and 1851 to 1866. 14 v.

THE British Farmers' Almanac for 1854–'56. 2 v.

EPHEMERIDES of the Celestial Motions for six years, from 1702 to 1707. John Wing. London, 1702.

CONNAISSANCE des Temps, 1810 to 1867. 56 v.

THE Russian Nautical Almanac, 1832 to 1861. 65 v.

BERLINER Astronomisches Jahrbuch, 1776 to 1868. 102 v.

NAUTISCHE Jahrbuch. C. Bremiker. Berlin, 1855 to 1858, and 1864 to 1866. 7 v.

ANNUAIRE Nautique. C. Bremiker. 1852–'55. 4 v.

KLEINE Astronomische Ephemeriden. C. L. Harding and G. Wissen. Gottingen, 1830–1835. 3 v.

ASTRONOMISCHES Jahrbuch. P. Gruithuisen, 1802–'43. 2 v.

JAHRESBERICHT der K. Sternwarte bei München. J. Lamont. 1852–'54–'58. 3 v.

ALMANACH der Osterreischen Krìegs-Marine. 1865.

KLEINER Astronomischer Almanach. 1840. H. Karsten. Rostock.

JAHRBUCH. H. C. Schumacker. 1836–'44, and 1853 to 1856. 7 v.

EPHEMERIS of the Distances of the Four Planets, Venus, Mars, Jupiter, and Saturn, from the Moon's Centre. H. C. Schumacher. Copenhagen, 1830. London, 1833.

ALMANACH der K. bayerischen Akad. Wissenschaften. 1855.

EPHEMERIDES do Imperial Observatorio Astronomico-Rio de Janeìro, 1852 to '56.

EPHEMERIDES Astronomicas Calculadas para o Merid. do Observatorio da Universidade de Coimbra. 1848.

ANUARIO del real Observatorio de Madrid, 1862–'63–'64. 3 v.

EPHEMERIDES di Milano, 1775 to 1865. 91 v.

ANNUARIO de Napoli, 1855–'56.

ALMANAQUE Nautico para el Observatorio de Marina de la Ciudad de S. Fernando, 1848, and '55-'56. 9 v.

V. Astronomical and Mathematical Tables.

BABBAGE, (C.) Table of Logarithms, 1 to 108,000. London, 1834.

BAGAY, (V.) Nouvelles Tables Astronomiques et Hydrographiques. Paris, 1829.

BAILY, (F.) Astronomical Tables and Formulæ. London, 1827.

——— New Tables for Precession, Aberration, and Nutation. 1827.

BERNOUILLI, (J.) A Sex-Centenary Table. London, 1779.

BREMIKER, (C.) Logarithmorum vi decimalium Nova Tabula, 1 to 10,000. Berolini, 1852.

BRÜNNOW, (Dr. F.) Tafeln der Flora mit Berüksichtigung der Stör ungen durch Jupiter und Saturn. Berlin, 1855.

BUREAU des Longitudes de France. Tables Astronomiques. Paris, 1806.

BURCKHARDT, (J. Ch.) Table des Diviseurs. Paris, 1817.

BOUVARD, (A.) Tables Astronomiques. Paris, 1821.

BESSEL, (F. W.) Tabulæ Regio Montanæ reductionum observ. Astronomicarum, 1750 to 1850.

CARLINI, (F.) Nuove Tavoli dei Moti Apparenti del Sole. Milano, 1833.

CASSINI, (M.) Tables Astronomiques du Soleil, de la Lune, &c. Paris, 1740.

COFFIN, (E. S.) Marine Traverse Tables. 1850.

COMMISSIONERS of Longitude: General Tables for correcting the apparent distance of the Moon and a Star. Cambridge, 1772.

——— Tables requisite to be used with the Nautical Ephemeris for finding the Latitude and Longitude at Sea. London, 1799.

CRELLE, (Dr. A. L.) Rechen Tafeln. Berlin, 1820.

——— Erleichterungs-Tafel. Berlin, 1836.

P. & B. PEIRCE. Tables of the Moon, constructed from Plana's Theory, &c. 1853.

PEIRCE, (B.) Tables of the Moon, constructed for the use of the American Ephemeris and Nautical Almanac, published by authority of the Secretary of the Navy. 1865.

DE BRAHM'S Zonical Tables for the 25 N. & S. Climates. London, 1774.

DELAMBRE, (J. B. J.,) Tables Écliptiques des Satellites de Jupiter. Paris, 1817.

——— Tables Trigonométriques Décimales. Paris, 1801.

DAMOISEAU, (le Baron.) Tables Écliptiques des Satellites de Jupiter. Paris, 1836.

GALBRAITH, (W.) Mathematical and Astronomical Tables. Edinburgh, 1834.

MATTHIESSEN, (E. A.) Tabula Gaussiana. Altona, 1817.

GORDON, (Jas., A. M.) Lunar and Time Tables. London, 1849.

HALLEI, (E.) Tabulæ Astronomicæ. Londini, 1749.

HANSEN, (P. A.,) and OLUFSEN, (C. F. R.) Tables du Soleil. Copenhague, 1853.

HANSEN, (P. A., Directeur de l'Observatoire Ducal de Gotha.) Tables de la Lune. Londres, 1857.

HASSLER, (F. R.) Logarithmic and Trigonometric Tables. N. Y., 1838.

HULSSE, (Dr. J. A.) Sammlung Mathematischer Tafeln, (Vega.) Leipsig, 1840 and 1849.

HUTTON, (C.) Mathematical Tables. Edited by O. Gregory. London, 1838.

LINDENAU, (B.) Tabulæ Martis; Mercurii; Veneris. 3 v. Gothæ, 1811, 1813, 1810.

LYNN, (Thomas.) Nautical and Astronomical Tables. London, 1825.

——— New Star Tables. London, 1843.

MARGETT. Longitude Tables for correcting the Effect of Parallax and Refraction. London, 1794.

MAYER, (T.) Tabulæ Motuum Solis et Lunæ. London, 1770.

MENDOZA, (Don José.) Collecion Completa de Tablas. Madrid, 1850.

——— Explicacion de las Tables.

OSSERVATORIO Collegio Romano. Tavole delle parallassi di Altezza di Longitudine e di Latitudine. Roma, 1816.

RUNKLE, (J. D.) New Tables for determining the Values of the Coefficients, &c. Smithsonian Institution.

SHADWELL, (C. F. A., R. N.) Tables for facilitating the approximate Prediction of Occultations and Eclipses. London, 1847.

——— Tables for determining the Latitude by the Simultaneous Altitudes of two Stars.

SHORTREDE, (R.) Logarithmic Tables. Edinburgh, 1849.

SCHUBERT, (E.) Tables of Melpomene and of Eunomia, (for Am. Ephemeris and Nautical Almanac.)

SCHUMACHER, (H. C.) Tafeln zur reduction der in der Histoire Céleste enthaltenen Beobachtungen. Copenhagen, 1825. 2 v.
STRUVE. Tabulæ Quantitatæ Besselianarum. Otto Struve. Petropoli, 1840, 1864.
TAYLOR, (M.) Logarithms of all Numbers from 1 to 101,000, and of Sines and Tangents. London, 1791.
——— A Sexagesimal Table. London, 1780.
TAYLOR, (Janet.) Lunar and Horary Tables. London, 1854.
THOMSON, (D.) Lunar and Horary Tables. London, 1859.
VEGA, (G.) Thesaurus Logarithmorum Completus. Leipsiæ, 1794.
DE ZACH, (Francisco,) Baron. Tabulæ Motuum Solis. Gothæ, 1792.
——— Tables abrégées et portatives du Soleil. Florence, 1809.
——— Nouvelles Tables d'Aberration et de Nutation; and Supplement. Paris, 1813. 2 v.
WESTPHAL. Logarithmische Tafeln von Westphal. Konigsberg, 1821.
WINLOCK. Tables of Mercury, for use of Am. Ephemeris and Nautical Almanac. 1864.
WOLFERS, (J. Ph.) Tabulæ reductionum Obs. Astr. 1860–1880, and 1850–1860. Berolini, 1858.

VI. Star Catalogues.

AKADEMISCHE Sternkarten Verzeichniss. Berlin, 1834.
ARGELANDER, (F. G. A.) DLX Stellarum Fixarum positiones Mediæ ineunte anno 1830.
——— Uranometria Nova. Berlin, 1833.
ARMAGH Observatory. Places of 5,345 Stars observed from 1828 to 1854. Rev. R. T. Robinson, D. D., F. S., F. R. S. Dublin, 1859.
FEHLER-VERZEICHNISS für die Bessels'chen Zonen Beobachtungen.
BRADLEY'S Observations. 1750.
BRITISH Association. The Catalogue of the Stars of the British Association. F. Baily. London, 1845.
CAGNOLI, (A.) Catalogue de 501 Etoiles. Modène, 1807.
CARRINGTON, (R. C.) 3,735 Circumpolar Stars observed at Red Hill. 1854-'55-'56.
COMMISSIONERS of Longitude. General Tables of the Moon's distance from the Sun and ten principal fixed Stars. London, 1787.
HARVARD University. Catalogue of Polar and Clock Stars.
HERSCHEL, (J. F. W.) General Catalogue of Nebulæ and Clusters of Stars. London, 1864.
——— Observations of the apparent Distances and Positions of 380 Double and Triple Stars. Herschel and South. London, 1825.
——— Catalogue of Stars not in the British Association. W. Herschel and Caroline Herschel, for R. Ast. Soc. London, 1798.
GREENWICH Appendix. Catalogue of 2,156 Stars, formed from the observations made during the twelve years 1836 to 1847.
——— Appendix, (1862.) Seven-Year Catalogue ot 2,022 Stars, deduced from observations extending from 1854 to 1860; reduced to the Epoch 1860.0.
GROOMBRIDGE, (S.) Catalogue of Circumpolar Stars. London, 1838.
JOHNSON, (M. J.) A Catalogue of 606 principal fixed Stars in S. Hemisphere. London, 1835.
LA CAILLE. Cœlum Australe Stelliferum. Parisiis, 1763.
LALANDE, (J.) Positiones Mediæ pour l'Époque 1790, des Étoiles Circumpolaires, (Federenko.) Edinburgh, 1854.
——— A Catalogue of those Stars in the Histoire Céleste Française of Jérôme De la Lande for which Tables of Reduction to the Epoch of 1800 have been published by Prof. Schumacker. F. Baily. London, 1847. 2 v.
MADRAS. A General Catalogue of the principal fixed Stars observed at Madras, 1830-'43. 5 v.
MARKREE. Catalogue of the Stars near the Ecliptic; observed at Markree, 1848-'49-'50. 4 v.
OELTZEN, (W.) Nachweis des Vorkommens Von Sternen aus den Argelander'schen Nordlichen Zonen.
PIAZZI, (J.) Precipuarum Stellarum inerrantium positiones mediæ ineunte seculo XIX, 1792 to 1813. Panormi, 1814.

POND, (J.) A Catalogue of 1,112 Stars, reduced from observations made at the Royal Observatory, Greenwich, 1816–1833. London, 1833.
RADCLIFFE. The Radcliffe Catalogue of 6,317 Stars. M. J. Johnson. Oxford, 1860.
RICHARDSON, (W.) Catalogue of 7,385 Stars, chiefly in the S. Hemisphere. London, 1835.
ROYAL Astronomical Society. Catalogue, 1825.
SCHWERD, (F. W.) Beobachtungen Circumpolarsternen in Mittlernen positionen, (Oeltzen.) 1828.
RUMKER, (C.) Preliminary Catalogue of Fixed Stars, intended for a prospectus of a Catalogue of the Stars of the S. Hemisphere. Hamburg, 1832.
——— Mittlere oerter von 12,000 Fix Stern für den Anfang von 1836. 1852.
SCHJSLLERUP, (H. C. F. C.) Stjernefortegnelse indeholdende 10,000 Positioner of teleskopiske Fixstjerner imellem — 15 og + 15 Graders Deklination. Kjobenhavn. 1864.
SMYTH, (Captain W. Henry,) R. N. A Cycle of Celestial Objects. London, 1844.
ST. PETERSBURG Imperial Academy. Catalogue de 514 Etoiles Doubles et Multiplies, &c.
STRUVE, (F. G. W.) Catalogus Novus Stellarum Duplicium et Multiplicium. Dorpat, 1827.
——— Stellarum duplicium et Multiplicium, Mensuræ Micrometricæ. Dorpat, 1837. 1 v., folio.
——— Addittamentum in F. G. W. Struve Mensuras Micrometricas, 1837.
——— Stellarum fix. imprimis Dup. et Multip. positiones Mediæ pro Epocha, 1830–1852.
WASHINGTON Observatory. Zones of Stars observed at the National Observatory, Washington. v. 1, part 1. 1860.
WEISSE, (M.) Positiones Mediæ Stell. fix. in Zonis regiomontanis a Besselio. 1st v. + 15° to — 15°. 2d v. + 15° to + 45°.
DE ZACH, (F.) Fixarum precipuarum Catalogus Novus Ex. Observ. Astronom. in Specula Ast. Gothana, 1787–1790. Gothæ, 1692.

Star Maps.

ARGELANDER'S, (F. W. A.)
BERLIN Academy.
CARRINGTON. (Red Hill.)
CHACORNAC, (J. C.)
HIND, (J. R.) Ecliptic Charts.
MAPS by the Society for the Diffusion of Useful Knowledge.
PLANISPHERE of the Heavens. J. Taylor.

MATHEMATICS.

AIRY, (G. B., A. M.) Mathematical Tracts on Lunar and Planetary Theories. Cambridge, Eng., 1858.
BADANO, (P. G.) Nuove Recherche sulle risoluzione generale della equazione algebriche. Genova, 1840.
BARLOW, (P.) An elementary investigation of the Theory of Numbers. London, 1811.
——— A new Mathematical and Philosophical Dictionary of Pure and Mixed Mathematics. London, 1811.
BESSEL, (F. W.) Bestimmung der länge des einfachen Secundenpels für Berlin. 1837.
DE BOUGAINVILLE, (Le Jeune.) Traité du Calcul Intégral. Paris, 1754.
CARNOT, (L. M. M.) Géometrie de Position. Paris, 1803.
CHASLES, (M.) Traité de Géometrie Supérieure. Paris, 1852.
CHAUVENET, (W., Prof. U. S. N. Academy.) Plane and Spherical Trigonometry. 1851.
CHURCH, (Prof, A. E., U. S. Military Academy, West Point.) Elements of the Differential and Integral Calculus. 1842.
——— Elements of Analytical Geometry. 1851.

GEODESY.

La Croix, (S. F.) Traité du Calcul Différential et du Calcul Intégral. 1797. 3 v.
Farrar, (J.) An Elementary Treatise on the Application of Trigonometry to Orthographic and Stereographic Projection. Boston, 1833.
La Fontaine. Traité du Calcul Differential et Integral. 1770.
Gauss, (Ch. F.) Méthodes des Moindres Carrés. Paris, 1855.
De Lisle et Gerono. Géometrie Analytique. Paris, 1854.
De Morgan. The Differential and Integral Calculus. London, 1842.
Newton, (Sir Isaac.) Philosophiæ Naturalis Principia Mathematica. Le Sœur et Jacquier. Glasguæ, 1833.
——— The same translated. W. Emerson. 1819.
Gerling, (C. L.) Die Ausgleichungs-Rechnungen der pratischen Geometrie. Hamburg, 1843.
La Grange. Leçons sur le Calcul des fonctions. 1806.
Hackley, (C. W.) A Treatise on Algebra. New York, 1846.
Hansen, (P. A.) Ausfürliche Methode mit dem Fraunhofferschen Heliometre. Gotha, 1827.
Hassler, (F. R.) Elements of the Geometry of Planes and Solids. 1828.
Hirsch Meier. Integraltafeln oder Sammlung von Integralformeln. Berlin, 1840.
Hutton, (C.,) LL.D. Tracts on Mathematical and Philosophical Subjects. 3 v. London, 1812.
Kelly, (P.) A Practical Introduction to Nautical and Spherical Astronomy. London, 1822.
La Grange. Méchanique Analytique. 2 v. Paris, 1853.
Liagre, (J. B. D.) Calcul des probabilités. Bruxelles, 1852.
Mollet, (J.) Gnomonique Graphique. Paris, 1837.
Pasley, (Col. C. W.) A complete course of Practical Geometry.
Peirce, (Prof. B.) Physical and Celestial Mechanics. Boston, 1855.
——— Elementary Treatise on Plane and Spherical Trigonometry. 1852.
Ramchundra, (Delhi College.) A Treatise upon Problems of Maxima and Minima.
Runkle, (J. D.) The Mathematical Monthly. Cambridge, Mass., 1859–'61.
Salmon, (Geo. D. D.) A Treatise on Conic Sections. Trinity College, Dublin.
Sestini, (B.) Elements of Geometry and Trigonometry.
Le Sœur et Jacquier. Élémens du Calcul Intégral. 2 v. 1768.
Schell, (Dr. W.) Allgemeine Théorie der Curven Doppelten. Krümmung.
Simpson, (R.) The Elements of Euclid. Philadelphia, 1829.
Smyth, (W.) Elements of Plane Trigonometry. Boston.
Spare, (J., M. D.) The Differential Calculus. Boston, 1865.
Young, (J. R.) Elements of Plane and Spherical Trigonometry. 1838.

GEODESY.

Arc du parallèle Moyen. Operations Géodesiques et Astronomiques pour la Mésure d'un Arc du Méridien parallèle Moyen, par une Commission composée d'Officiers Piemontais et Autrichien. Milan, 1827. 3 v.
Arc of India. An account of the Measurement of two Sections of the Meridional Arc of India. Lieut Col. Everest. London, 1847. 2 v.
Arc du Méridien de 25° 20′ entre le Danube et La Mer Glaciale. F. G. W. Struve. St. Petersbourg, 1860.
Arc du Méridien. Exposition des operations faites en Lapponie pour la détermination d'un Arc du Meridien. Jons Svanberg. Stockholm, 1805.
La Méridienne de l'Observatoire Royal de Paris vérifiée. M. Cassini de Thury. Paris, 1744.
Anger, (C. T.) Bemerkungen über einige Methoden zur bestimmung der Geographischen breite. Kœnigsberg, 1839.
Begat, (P.) Traité de Géodésie. Paris, 1839.

MAGNETISM AND METEOROLOGY.

Cassini, Mechain, et Le Gendre. Exposé des operations faites en France en 1787, pour la jonction des Observatoires de Paris et de Greenwich.
——— Operations faites pour la jonction des Observatoires de Paris et de Greenwich.
De Lambre, (J. B. J.) Méthodes Analytiques pour la détermination d'un Arc du Méridien. Paris. An. VII.
Fabre, (M.) Traité complet sur la Théorie et la pratique du nivellement. A. Draguignan.
Folque, (F.) Memoria sobre os Trabalhos Geodesicos executados em Portugal. Lisbon, 1841.
Francœur, (L. B.) Géodesie ou Traité de la Figure de la Terre, &c. Paris, 1840.
Frome, (Lieut. R. E.) Outline of the Method of Conducting a Trigonometrical Survey. London, 1840.
Gerling, (C. L.) Beitrage zur Geographie Kurhessens. Cassel, 1831.
Hansen, (P. A.) Théorie der Pendelbewegung. Danzig, 1853.
James, (H., Col. Ordnance.) Trigonometrical Survey of Great Britain and Ireland. 3 v. London, 1858.
——— Extension of the same to France and Belgium.
Langier, (E.) Usage de Cercle Méridien portatif pour la déterminations des positions géographiques. Paris, 1852.
Mudge, (Capt. W.) Account of the Operations carried on for accomplishing a Trigonometrical Survey of England and Wales, 1784 to 1809. 3 v. London, 1811.
Palfrey, (J. G.) Tables of Bearings, Distances, Latitudes and Longitudes, &c., ascertained by astronomical and trigonometrical survey of Massachusetts. Boston, 1846.
Puissant, (L.) Traité de Geodesie. Paris, 1842. 2 v.
——— Traité de Topographie, d'Arpentage et de Nivellement. 1820.
Secchi, (P.) Misura della base trigonometrica sulla Via Appia. P. A. Secchi. Roma, 1858.
Simms, (F. W.) A Treatise on the Principles and Practice of Levelling, with notes, by J. H. Alexander, Civil Engineer, Baltimore.
Struve, (F. G. W.) Expedition Chronométrique entre Poulkova et Altona pour la détermination de la longitude géographique relative de l'Observatoire Central. 1844.
——— Breitengradmessung in den Ostseeprovinsen Russlands. Dorpat, 1831. 2 v.
Struve, (W.) Tables des positions géographiques principales de la Russie. St. Petersbourg, 1843.
——— Resultate der in den Jahren, 1816 bis 1819, Ausgeführten Astronomich-Trigon vermessung Livlands. St. Petersbourg, 1844.
Thorel, (J. B. A.) Arpentage et Géodésie pratiques. 1843.
Yolland. Ordnance Survey. Astronomical Observations made with Airy's Zenith Sector for determining latitudes. London, 1852.

Geodetic pamphlets.

Volume I containing—

1. Rapport sur les travaux de l'Expedition de Bessarabie.
2. Sur une Méthode Nouvelle pour déterminer en Mer l'heure et la Longitude. H. Faye.
3. Nachricht von der vollendung der Gradmessung.
4. Sur la jonction des operations Géodesiques Russes et Autrichiennes. W. Struve.
5. Determinacion de la posicion Geografica de Mexico. F. D. Covarrubias.
6. Indberetning Astronomiske og Geodetiske Observationer Christiania. J. Dahl.
7. Uber die Seehöhe von Prag. Dr. J. Bohm.
8. Die Russisch-Scandinavische Meridian-Gradmessung. O. Struve.

MAGNETISM AND METEOROLOGY.

I. Observations and Reports.

Athabasca L. and Fort Simpson. Mag. and Met. Observations. Captain Lefroy; Sir J. Richardson.

MAGNETISM AND METEOROLOGY.

BOMBAY. Observations Magnetical and Meteorological. A. B. Orlebar, M. A. 1845 to 1851. 6 v.

BRUXELLES Acad. R. Resumé des Observations Magnétiques et Météorologiques. Memoirs, 18.

CAMBRIDGE. Magnetic Observations, made at the Observatory of Harvard University, Cambridge. J. Lovering. 1841.

CAPE of Good Hope. Magnetic and Meteorological Observations made at the Cape of Good Hope, 1841 to 1846. Sabine.

CAMBRIDGE, Eng. Proceedings connected with the Magnetical and Met. Conference. June, 1845.

ELLIOTT. Magnetic Survey of the Eastern Archipelago. C. M. Elliott, Captain R. N. 1851.

GIRARD College. Observations at the Magnetic and Met. Observatory, G. College, Philadelphia. A. D. Bache, LL. D. 1840–1845. 3 v.

GREENWICH Magnetical and Meteorological Observations, R. Observatory. G. B. Airy, Astronomer Royal. 1840 to 1863. 20 v., with Appendix.

HANSTEEN and Due. Resultate Magnetischer Astronomischer und Met. Beobachtungen Christiania, 1828. 1863.

HOBARTON. Observations made at the Magnetic and Met. Observatory at Hobarton, 1841 to 1845. Sabine. 2 v.

KREMSMUNSTER. Magnetische Observatorium Bericht, (Reslhuber.) 1854.

LOOMIS, (Prof. E.) Observations to determine the Magnetic intensity at several places in the U. S. 1840.

MUNICH. Magnetische Ortsbestimmungen ausgeführt an verschiedenen puncten des Konigreichs Bayern. J. Lamont. 1854–'56.

——— Ueber das Magnetische Observatorium der K. Sternwarte bei Munchen. Lamont, 1841.

——— Bericht über Erdmagnetismus. 1845.

——— Annalen für Meteorologie und Erdmagnetismus. 1842–'44. 5 v.

——— Annalen für Meteorologie Erdmagnetismus und Verwandte Gegenstande. J. Lamont. 1842–'44. 5 v.

MAKERSTOUN. Observations in Magnetism and Meteorology. J. A. Brown, Esq. 1843–'46. 4 v.

PRAG. Magnet. and Met. Beobachtungen zu Prag. K. Kreill and J. G. Bohm. 1839–1864, 20 v.

——— Jahrbücher der K. K. Central Anstalt. für Meteorologie und Magnet. Kreill. 1848 to 1856. 7 v.

——— Magnetische Ortsbestimmungen in Bohmen. Kreill. 1846.

RUSSIA Central Physical Observatory. Annales de l'Observatoire physique Central de Russie. 1847 to 1862. 17 v. A. T. Kupffer.

——— Annuaire Magnétique et Météorologique du Corps des Ingénieurs des Mines de Russie. Kupffer. 1841 to 1846, and Appendix. 7 v.

SABINE. Magnetical and Meteorological Observations and Investigations. Lieut. Col. E. Sabine. 1850.

——— Experiments on the Dip of the Needle. Sabine. 1822.

——— Observations on Days of unusual Magnetic disturbance. Sabine. 1843. 2 v.

——— Contributions to Terrestrial Magnetism. E. Sabine. 1840.

——— Magnetical and Meteorological Observations made at St. Helena. 1844–1849. Sabine. 2 v.

TORONTO, C. W. Magnetic and Meteorological Observations made at Toronto, C. W. 1840 to 1843. 3 v.

——— Results of same, and Abstracts, to 1863. G. T. Kingston, Director.

WASHINGTON. Magnetic and Meteorological Observations made at Washington, by Lieut. Jas. M. Gilliss, U. S. N. 1838 to 1842.

II. Treatises on Magnetism.

ADMIRALTY Manual for deviations of the Compass. 1862 and 1863.

AIRY, (G. B.,) Astronomer Royal. Experiments on disturbance of the Compass on Iron-built Ships. 1840.

——— The same; translated into French, by M. B. Darondeau. 1857.

BARLOW, (J.) A new Theory, accounting for the Dip of the Magnetic Needle, being an Analysis of Terrestrial Magnetism. N. Y., 1835.

MAGNETISM AND METEOROLOGY.

BARLOW, (Peter, F. R. S.) Terrestrial and Electro-Magnetism. London, 1824.

BREWSTER, (Sir D.) A Treatise on Magnetism. Edinburgh, 1837.

CHURCHMAN, (J.) The Magnetic Atlas. London, 1794.

COMPASS Committee. Reports of Liverpool Compass Committee. 1855–'56.

FORBES, (R. B.) Remarks on Magnetism and Local Attraction.

HANSTEEN, (C.) Untersuchungen über den Magnetismus der Erde. Christiania, 1819. With Atlas.

JOHNSON, (Capt. E., R. N.) Practical illustrations of the necessity for ascertaining the deviations of the Compass.

LAMONT, (J.) Magnetische Karten Von Deutschland. Bayern.

——— Untersuchungen-richtüng und Starke des Erdmagnetismus in N. Deutschland, Belgien, Holland, Dänemark.

——— Magnet. Beobachtungen. 1841.

LLOYD, (Rev. H.,) Account of the Magnetic Observatory of Dublin. 1842.

LORIMER, (J.) Essay upon Magnetism. London, 1795.

MURPHY, (P.) Rudiments of the primary forces of Gravity, Magnetism, and Electricity. London, 1830.

NORTON, (W. A.) Terrestrial Magnetism. (From American Journal of Science, vol. IV.)

QUINET, (J.) Variations Magnétiques et Atmosphériques du Globe Terrestre. Paris, 1826.

RIDDLE, (C. J. B., R. A.) Magnetical instructions for the use of portable instruments, &c., 1844.

——— Supplement to the same. 1846.

REVISED instructions for use of Magnetical and Meteorological Observatories. By Committee of Royal Society. 1842.

SCHELLEN, (H., Dr.) Der Electromagnetische Telegraph. Braunschweig. 1850.

SCHAUB, (F., Dr.) Über die deviationen des Compasses.

SCORESBY, (Wm., LL. D.) Magnetical Investigations. 2 v. 1844.

——— Journal of a Voyage to Australia and round the World for Magnetical Research.

VAN BEEK, (M. A.) De l'influence que le fer des vaisseaux exerce sur la Boussole. 1826.

WALKER, (Wm., R. N.) The Magnetism of Ships and the Mariner's Compass. London, 1853.

Pamphlets on Magnetism, (bound.)

VOLUME I containing, for Magnetism and Meteorology, the following:

1. CIRCULAR for Colonial Magnetic Observatories.
2. SUR la declinaison, &c., de l'aiguille. Quetelet.
3. MAGNÉTISME terrestre et Aurore Boreale. Lamont.
4. SUR le Magnétism Terrestre. Hansteen.
5. SUR la variation des éleméns Magnétiques. Perè A. Secchi.
6. MAGNÉTISME Terrestre. E. Quetelet.
7. DE la Variation Annuelle de l'inclinaison et de la déclinaison Magnétique. M. A. Quetelet.
8. SUR la Magnétisme Terrestre. M. Hansteen.
9. OBSERVATIONS et Recherches sur l'intensité Magnétique, &c. M. Mahmoud. Bruxelles, 1854.
10. REPORT of Committee of Royal Society and of British Association on Magnetic and Meteorological Observatories.
11. MAGNETIC disturbances at Toronto. G. T. Kingston.
12. SUR l'electricité des Nuages Orageux. Quetelet.
13. DEN Magnetische declination i Christiania udledet af Observationer, 1842–'62. Mohn.
14. EINE Theorie des Diamagnetismus, &c. Dr. Feelitzch. Greiswald.
15. SUR le principe electrostatique de Palagi et ses experiences. Zantedeschi.
16. OFFICIAL Correspondence in relation to a Universal System of Meteorological Observations. [United States and Great Britain.]

17. SUR les Aurores Borĉales, &c. Hansteen.
18. SUR la Météorologie Nautique et la Conférence Maritime tenue à Bruxelles. Quetelet.
19. UEBER die frage, ob die tägliche Schwankung des Barometers, &c.
20. ÜBER die tagliche Oscillation des Barometers. Lamont.
21. NOTE sur les variation périodiques de la temperature et de la pressure Atmospherique au Grand St. Bernard. Plantamour.
22. OBSERVATIONS on a new Hygrometer. Daniell.
23. BERICHT über die Meteorol. Arbeiten in Kanton Bern, in Jahr, 1861. Wild.
24. BERICHT der Meteor Centralastation in Bern, 1862–'63.
25. RESULTATE aus den im Jahre, 1856, auf der Sternwarte Angestelten Meteor Beobachtungen. Relshuber.
26. SUR les Nébuleuses, sur l'hygrometrie, sur les variations périodiques de l'atmosphere, &c. Quetelet.
27. ANNALI del Real Osservatorio Meteor. Vesuviano.
28. L'AURORE Boreale du 21 Avril, 1859. Quetelet.
29. MÉTÉOROLOGIE et Astronomie. Quetelet.

VOLUME II, on Magnetism and Meteorology, containing—

1. SUPPLEMENT to a paper on the mutual action of permanent magnets. Lloyd.
2. MAGNETIC Observations made at Harvard College. J. Lovering and W. C. Bond.
3. ON two storms experienced throughout the United States, 1842. E. Loomis, Professor Western Reserve College.
4. OBSERVATIONS on the Magnetic Dip, made on SW. and NE. frontiers of the United States. J. D. Graham, Major U. S. Topographical Engineers. 1844.
5. THE Periodical Meteors of August and November, 1841. S. C. Walker.

VOLUME III, on Magnetism and Meteorology, containing—

1. UEBER die Auswendung der Magnetischen Induction auf Messung der Inclination mit dem Magnetometer. Weber, 1853.
2. BESTIMMUNG der rechtwinkeligen Componenten der Erdmagnetischen Kraft in Gottingen. Weber.
3. OBSERVATIONS for the Isodynamic, Isogonic, and Isoclinal Curves of Terrestrial Magnetism on the line of the Boundary Survey between the United States and Mexico: (W. H. Emory, Astronomer.) Together with observations at San Francisco and in Texas. A. D. Bache, Superintendent U. S. Coast Survey.
4. RESUMÉ des Observations Magnétiques et Météorologiques. Acad. R. de Bruxelles.
5. CONTRIBUTIONS to a Knowledge of the Phenomena of the Zodiacal Light. C. P. Smyth.
6. RESULTATE der an der Cracauer Sternwarte gemachten Meteor. und Astronom. Beobachtungen. Krakau, 1839.

METEOROLOGY.

I. Observations and Reports.

ARMY, (U. S.) Meteorological Register, 1831–42.

——— Directions for Taking Observations.

BALLOT, (C. H. Du Buys.) Sur la Marche Annuelle du Thermomètre et du Baromètre en Neèrlande, &c. 1861.

UITKOMSTEN Van Wetenschap en Ervaring aangaannde winden Zeestroomingen in Sommige Gedeelten van den Oceaan. 1855 to 1863. 9 parts.

BOARD OF TRADE. Meteorological papers. Nos. 1 to 10.

BRUSSELS. Maritime Conference for devising a Uniform System of Meteorological Observations at Sea. 1853.

BURKHARDT, (A. U.) Ubersichten der Witterung in Osterreich und einigen Aus-wartigen Stationen. 1856 to 1863. Wien. 2 v.

CHRISTIANIAS'S Observatorium Meteorologische Beobachtungen. 1837 to 1855. 4 v.

DOVE, (H. W.) Über die nicht periodischen Aenderungen der Temperatur Vertheilung auf der Oberfläche der Erde in dem Zeitraume von 1729, bis 1855. Berlin, 1859.

——— Bericht über die in den Jahren 1848–'49 auf den Stationen des Meteor. Instituts in Preussichen Staate Angestelten Beobachtungen. Berlin, 1851.

ESPY, (Prof. James.) Meteorological Reports Nos. 1, 2, 4. Washington, 1857.

EUGENIE. Voyage autour du Monde sur la Frégate Suédoise. 1851 to 1853. Com. C. A. Virgen. II Physique.

GALLE, (D. J. G.) Grundsüge der Schlesischen Klimatologie. Breslau, 1857.

JAMES, (Lt. Col. Henry.) Meteorological Observations, 1829 to 1852, àt the Ordnance Survey Office, Phenix Park, Dublin.

——— Abstracts from the Meteorological Observations taken at the Stations of the Royal Engineers, 1853–'59.

KREIL, (Karl.) Entwurf eines Meteorologischen Beobachtungs-Systems für die Osterreichische Monarchie. Wien. 1850.

KUPFFER, (M..) Observations Météorologiques à Archangel.

LAMONT, (Dr. J.) Koniglichen Sternwarte bei München, 1825–'56, angestellten Meteor. Beobacht. 1859.

——— Beobachtungen des Meteorologischen Observatoriums auf dem Hohenpeissenberg. 1792–1850.

——— Meteorologische Beobachtungen Aufgezeichnet an der K. Sternwarte bei München, 1825–'37. München, 1857.

LISBOA. Trabalhos do Observatorio Meteorologico do Infante D. Luis. 2 vols.

LITTROW, (C., and Hornstein, C.) Meteor. Beobachtungen auf der K. K. Steinwaite in Wein von 1775 bis 1855. Wein, 1860. 4 v.

MADRAS. Meteorological Observations, 1841 to '45. 1 v.

MAURITIUS. Transactions of the Meteorological Society of. Vol. 4, 1856.

NEUMAYER, (G.) Results of the Meteorological Observations taken in the Colony of Victoria, 1859–'62.

NOVARA. Reise der Osterreichischen Fregatte Novara um die Erde in den Jahren 1857–'59.

OBSERVATIONS Météorologiques à Nigne Taguilsk, (Monts Oural.)

OBSERVATIONS des Phénomènes Périodiques. 8 vols.

ÜBERICHT der Witterung in Nordlichen Deutschland, 1856, '57, '58.

METEOROLOGISCHE Waarnemingen in Nederland en Afwijkengen van Temperatuur en Barometerstand op Andere Platsen in Europa, 1853 to 1864. 6 vols.

METEOROLOGISKA Iakttagelser i Sverige. Stockholm, 1860—1864.

METEOROLOGISCHE Beobachtungen Angestelt zu Danzig, 1807—1830. (Naturforschenden Gesellschaft.)

PATENT OFFICE, (U. S.) Results of Meteorological Observations made under the direction of the U. S. Patent Office and Smithsonian Institution. Vol. I, 1854 to 1859, and vol. II, part I.

PLANTAMOUR, (Prof. E.) Resumé Météorologique pour Genève et le Grand St. Bernard. 9 vols., 1851 to '64.

PRESTEL, (M. A. F.) Die Regenverhältnisse des Königreichs Hannover nebst Ausfürlicher Darstellung aller den Atmosphäre'schen Niederschlag. Emden. 1864.

SANDEMAN, (P.) Monthly Tables of Daily Means of Meteorological Elements deduced from Observations taken at the Observatory, Georgetown, Demerara, British Guiana, 1857.

SINOBAS. Trabajos Météorologicos. Don M. Rico y Sinobas.

SNOW, (R.) Observations of the Aurora Borealis. 1834 to 1839.

SCOTLAND. Quarterly Report of the Meteorological Society of Scotland and of England, 1864.

TORONTO. Meteorological Results, Magnetical Observatory, C. W., 1860 to 1863, (G. T. Kingston, M. A., Director.)

VENERIO, (G.) Osservationi Meteorologiche fatte in Udine nel Friuli pel qualantennio, 1803–'42.

LE VERRIER. Bulletins Météorologiques. 1858 to 1860, and 1863 to 1866. 7 vols.

ANNUAIRE de la Société Météorologique de la France.
ANNUAIRE Météorologique de la France, 1849.
WOLFF, (Dr. R.) Schweizerische Meteorologische Beobachtungen, 1864.

II. Treatises and Researches.

D'ALEMBERT. La Cause Générale des Vents. Paris, 1847.
BENSENBERG, (J. F.) Die Sternschuppen. Hamburg, 1839.
BIANCHI, (G., Prof.) Intorno la quantità della pioggia che cade annualmente a Modena.
BIGOT dé Morogue. Mémoire Historique et Physique sur les chutes de Pierres. Orleans, 1802.
BIRT, (W. R.) Hand-book of the Law of Storms. 1863.
BLODGET, (L.) Climatology of the United States and of the temperate latitudes of the American Continent, 1857.
BOHM, (J. G.) Beitrag zur Berechnung der Sternschuppen. 1858.
BRIDET, (H.) Ètude sur les ouragans de l'hemisphere Australe. 1861.
CLOS, (J. A.) Nouvel Aperçu sur la Météorologie. Paris, 1828.
COTTE, (P.) Traité de Météorologie. Paris, 1774.
——— Mémoires sur la Météorologie. P. Cotte. 1788.
DALTON, (John) Meteorological Essays and Observations. 1834.
DANIELL, (J. F.) Meteorological Essays and Observations. 1823.
——— Treatise on Meteorology. London, 1845. 2 vols.
DAQUIN, (J.) Essai Météorologique. Chamberry, 1784.
DOVE, (H. W.) Meteorologische Untersuchungen. 1837.
ESPY, (J. P., A. M., Prof.) The Philosophy of Storms. Boston, 1841.
FITZROY, (R., Rear-Admiral.) A Manual of Practical Meteorology. London, 1863.
FORSTER, (Thomas, F.L.S.M.B.) Researches about Atmospheric Phenomena. 2d edition. London, 1823.
GARNIER, (J. G.) Traité de Météorologie, ou Physique du Globe. Paris, 1839.
IZARN, (J.) Des Pierres Tombées du Ciel, ou Lithologie. Paris, 1803.
KAEMTZ, (Dr. L. F.) Repertorium für Météorologie. 1860.
KELLER, (F. A. E.) Des Typhons de 1848. Paris, 1849.
——— Des Typhons de 1848, &c. (Extrait des Annales Hydrographiques de 1848–'49.) Paris, 1849.
KUPFFER, (A. T.) Notes relative à la Temperature de l'Air et du Sol.
LARTIGUE, (M.) Système des Vents. Paris, 1840.
LUC, (J. A. De.) Recherches sur les Modifications de l'Atmosphere. Paris, 1784. 4 vols.
MAIRAN, (M.) Traité Physique et Historique de l'Aurore Boreale. Paris, 1754.
MET. Waarnerningen en Nederland: R. Met. Institut. 1853 to 1864. 10 vols.
——— De Wet der Stormen. K. Nederlandisch. Met. Institut. 1862.
PIDDINGTON, (H.) The Law of Storms in India. 1839.
——— Conversations about Hurricanes. H. Piddington. 1855.
PLANTAMOUR, (E.) Climat du Genève. 1863.
RAMOND, (L.) Memoires sur la Formule Barometrique de la Mecanique Celeste. 1811.
ROMME, (C.) Tableaux des Vents des Marées et des Courans. Paris, 1816. 1 vol. only.
REID, (Lt. Col. W.) An Attempt to Develop the Law of Storms.
——— The Progress of the Development of the Law of Storms and of Variable Winds. Lieut. Col. W. Reid, R. E. 1849.
REPORT of the Royal Society on Physics, including Meteorology. London, 1840.
SAUSSURE, (Prof. De.) Essais sur l'Hygrometrie. Geneva, 1783.
——— Defense de l'Hygrometre de Cheveu. Geneva, 1788.
SNOW, (R., Esq.) Observations of the Aurora Borealis, 1834 to 1839. London, 1842.
THOM, (A.) An Inquiry into the Nature and Course of Storms in the Indian Ocean South of the Equator. London, 1845.
WALKER, (S. C., A. P. S.) Researches concerning the Periodical Meteors of August and November. 1841.

WALKER, (C. V.) A complete Course in Meteorology. Prof. L. F. Kaemtz, Halle, translated by C. V. Walker. London, 1845.
WILKES, (Charles, Capt. U. S. N.) Theory of the Winds. 1856.

III. Meteorological Tables.

BIOT, (M.) Tables Barométriques Portatives. Paris, 1811. 2 v.
DOVE, (Prof.) Tabellen über den Preussischen Staat. Berlin, 1858.
GUYOT, (A., Prof.) Meteorological and Physical Tables; prepared for the Smithsonian Institution.
HOSKINS, (S. E.) Tables for Corrections of the Barometer. Guernsey, 1842.
KUPFFER, (A. T.) Tables Psychrométriques et Barométriques. 1841.

Meteorological Pamphlets.

VOLUME I containing—

1. RESUMEN de los trabajos Meteorologicos. 1854. Madrid.
2. SERVICE Météorologique des Ports. Le Verrier. 1860.
3. RESULTATE aus den an der K. Sternwarte Veran-Stalleten Meteorologischen Untersuchungen. Dr. J. Lamont. Munchen, 1857.
4. ALCUNE Ricerche Meteorologiche sulle tempesti occorse Nel 1859–'60. Secchi.
5. ERGEBNISSE der Witterungs Beobachtungen zu Emden. 1860–'61. Prestel.
6. DAS geographische system der Winde über dem Atlantischen ocean. Prestel. Emden, 1863.
7. DU Froid Thermométrique et de ses relations avec le Froid physiologique dans les plaines et sur les Montagnes. Martins, 1859.
8. ON a necessary correction to the observed height of the Barometer depending upon the force of the wind. Captain Henry James, R. E. 1852.
9. MÉMOIRE sur les observations Météorologiques faites à l'observatione Royal de Paris, 1827.

VOLUME II containing—

1. EXPERIMENTS and Remarks on the measurement of heights by the boiling point of Water. J. D. Forbes, D. C. L., F. R. S. 1855.
2. ON the horary Oscillations of the Barometer. J. D. Forbes. 1831.
3. EXPERIMENTS on the temperature of the Earth. J. D. Forbes, F. R. S. 1846.
4. ON the diminution of temperature with height in the Atmosphere at different seasons of the year. J. D. Forbes. 1840.
5. RESEARCHES on heat. 2d, 3d, 4th series. Forbes.
6. ADDITIONAL Experiments on Magnetism. Forbes.
7. ÜBER die Rückfalle der Kälte in Mai. H. W. DOVE. 1857.
8. METEOROLOGISCHE Untersuchungen. Prestel. 1861.
9. DER Barometerstand und die barometrische Windrose Oftfrieslands. Prestel. Emden, 1860.
10. CONSIDERATIONS sur la prévision des tempêtes, &c. Müller. St. Petersbourg, 1864.

VOLUME III containing—

1. RESULTS of Meteorological Observations for twenty years for Hobart Town. Abbott. Tasmania, 1861.
2. MAGNETISCHE Beobachtungen zu Kremsmunster in der Jahren, 1851–'53. Reslhuber. Wien, 1856.
3. ON the annual Variation of the Magnetic declinations at different periods of the day. Sabine. 1851.
4. RESUMÉS des observations Météorologiques faites dans l'étendue de l'Empire de Russie. Kupffer.
5. PONTIFICIA Corrispondenza Meteorol. telegrafica in Roma a Mezzodi. Secchi. 1856.
6. ACCOUNT of the construction of a Standard Barometer, &c. Kew Observatory.
7. RIASSUNTI delle Osservazione Meteorologiche. C. Giovanni. Milano, 1861.

METEOROLOGY.

8. DIE Thermische Windrose für· Nordwest Deutschland. Prestel. Jena, 1861.
9. METEOROLOGISCHE Beobachtungen Weiner Sternwarte, 1851-1855.

VOLUMES IV and V containing—

OBSERVATIONS des Phénomènes périodiques. Academie Royale de Belgique.

VOLUME VI containing—

1. RESULTATE der von dem Bereine fur die Endeten kurde, &c. Boguslawski. 1847.
2 and 3. BERICHT über die Verhandlungen der Meteorologischen section, 1853. J. G. Galle.
4. UEBER die Witterungs-Anseigen in den Kalendern. P. A. Reslhuber.
5. UEBERSICHT der Witterung im N. Deutschland, 1858–'60.
6. DER Wetterauer Gesellschaft für naturkunde, &c. Marburg.
7. MAGNETISCHE Beobachtungen im Ostlichen Theile des Mittelmeeres auf befehl Seiner K. K. Hoheit des Durchlauchtigsten Herrn Erzherzogs. F. Mare. Schaub, 1858.
8. DE la temperature à Genève. Plantamour.

VOLUME VII containing—

1. UEBER die climatischen Verhaltnisse des Preussischen Staates.
2. ERSTER bericht über die K. K. Central Anstalt für Meteorologie und Erdmagnetismus. Karl Kreil.
3. DE Stormen Nabig de kaap de goede Hoop, &c. J. Van Gogh.
4. ÜBER das Wetterleuchten. P. A. Reslhuber.
5. ON the Meteorology of England, S. Scotland, and parts of Ireland. 1852.
6. REMARKS on Revolving Storms. Published by Lords Com. Admiralty. 1853.
7. A PAPER and resolutions on a Uniform System of Meteorological Observations. Major R. Lochlan. Cincinnati, 1859.
8. MEMOIR on Shooting Stars. Professor Newton. 1865.
9. BERICHT, 1859. Mag. Observ. zu Kremsmunster Beobachteten Störungen. Reslhuber. 1860.
10. C. HANSTEEN on the Aurora of 1859.
1. HYGROMETRICAL Tables. Jas. Glaisher, Esq. 1847.
12. DIE Gewitter des Jahres, 1855. Prestel.
13. SUR recenti progressi della Meteorologia. P. Secchi. Roma, 1861.
14. BEITRAGE zur klimatologie Von Oberösterreich. Reslhuber. Linz, 1855.

VOLUME VIII containing—

1. INTORNO alla influenza dell elettrico. Padova, 1860.
2. INSTRUCTIONS for taking meteorological observations.
3 and 4. UNTERSUCHUNGEN über das Atmosphärischen Ozon. J. Boem, Wien, and P. A. Reslhuber, Kremsmunster.
5. ÜBER die Temperatur der Quellen von Kremsmunster. Reslhuber.
6. ÜBER den Ozongehalt der Atmosphärischen luft. Reslhuber.
7 and 8. ZWEITER und Dritter Bericht Über die K. K. Central anstalt für Meteorologie und Erdmagnetismus. K. Kreil. 1852.
9. Entwurf eines Meteorologischen Beobachtungen Systems für die Osterreichische Monarchie. Kreil. 1848.
10. Remarks on Magnetism and local attraction. R. B. Forbes. Boston, 1857.
11. Skydœkket i Christiania og dets periodiske Forandringer, 1843–1863. H. Mohn.
12. CURIOSITA e investigazioni Barometriche Articolo. Bianchi.
13. SOPRA la temperatura Naturale o Climatologica Nota. Bianchi.
14. SUR l'influence de la distance et la correction horaire des differences de niveau obtenues à l'aide de deux Baromètres correspondants. Martins.
15. SOPRA i differenti Metodi per trovare con esaltetezza la différences dei Meridiani, o di longitudine der luoghi terrestri. Bianchi.

METEOROLOGY.

16. OSSERVASIONI Meteorologiche fatte alla specola di Bologna nel Gennaio, 1851.
17. ÜBER Pendel Mit Quecksilber-Compensation. Dr. J. Bohm. Wien, 1858.

VOLUME IX containing—

1. RECHERCHES sur la distribution de la temperature à la surface de la Suisse, 1863–'64. Plantamour.
2. METEOROLOGICAL Journal for 1851. Kept in St. John's, Berkley parish, S. C. Ravenel.
3. DE la necessité d'un Systeme général d'observations Nautiques et Météorologiques. Maury.
4. SUR les Epoques de la feuillaison et de la floraison à Bruxelles. Quetelet, Linster and Fritsch.
5. MET. Beobachtungen. Resultate. 1858. Kremsmunster.
6. UEBER Met. Beobachtungen auf Russischen Schiffen. Erman.
7. ÜBER die periodischen Aenderungen des druckes der Atmosphäre. Dove.
8. ON the Corrections to be applied to the Monthly Means of Meteorological Observations. Glaisher.
9. ON the direction of the Wind at Manchester. 1849–'61.
10. THE number of days on which rain falls annually at London, 1807–'62. G. V. Vernon.
11. ON the rain-fall at Oldham, 1836–'62. Vernon.
12. UNTERSUCHUNGEN über den druck der luft. Reshluber.
13. CONTRIBUTIONS to Meteorology. C. Smallwood. Canada East.
14. NOTAS explicativas para a Execuçao de Observaçôes e deduçcôes Meteorologicas Segundo um plano uniforme. Lisboa, 1856.
15. MEAN Meteorological Results. Toronto, 1862.
16. OBSERVATIONS de l'inclinaison Magnétique, 1855–'64, L'Observatoire Christiania. Hansteen.
17. ANNUAL Meteorological Synopsis. 1865. Toledo, Ohio.

VOLUME X containing—

1. AUSTRALASIAN Cyclonology. Dobson, Tasmania, 1853.
2, 3. 18TH, 19th, and 20th Memoirs on the law of Storms in India. Piddington.
4. Report of the Council of British Meteorological Society, 1852.
5. PROCEEDINGS of Meteorological Society of Mauritius, 1861.
6. THE Relative power of Glaciers and floating Icebergs in modifying the surface of the Earth.
7. RECHERCHES: La Temperature de l'air par la Marche d'un Thermomètre non équilibré. Dufour.
8. THE August Meteors. Twining. H. A. Newton.
9. SHOOTING Stars of November, 1863.
10. DESCRIPTION of an Automatic registering and printing Barometer. G. W. Hough. Dudley Observatory.
11. L'APPLICATION générale de la Méthode d'observation en philosophie.
12. NOTICE of the hail storm which passed over New York city, 1st July, 1853. Loomis.
13. THE Expediency of a Time Weather Observatory in New York.
14. ERD-Erschutterungen. Dr. Klunge. Stuttgart.

VOLUME XI containing—

1. BAROMETER and Weather Guide. Fitzroy.
2. RELATIVO do Serviço do Observatorio do Infante D. Luis, 1863–'64. Lisboa.
3. DOVE'S Variation of Pressure, (6th No. Meteorological papers, Board of Trade.)
4. METEOROGICAL Papers, Board of Trade, (miscellaneous)

VOLUME XII containing—

1. DIRECTIONS for Meteorogical Observations. Smithsonian Institution. 1850.
2. STRICTURES on Prof. Espy's Report on Storms. R. Hare, M. D.
3. OBSERVATIONS on the Zodiacal light at Quito. Rev. G. Jones, chaplain U. S. navy.

METEOROLOGY.

4. METEOROLOGICAL Observations. Radcliffe Observatory, Oxford, 1854. M. J. Johnson.
5. DESCRIPTION of the wax-paper process employed for the Photo-meteographic registrations at the Radcliffe Observatory. W. Crookes.
6. A CATALOGUE of the observations of luminous meteors. Rev. B. Powell. 1850.
7. SUR la Météorologie Nautique. Erman. Berlin.
8. RAPPORT sur l'état et les travaux de l'Observatoire Royal. Bruxelles, 1848. Quetelet.
9. NACHRICHTEN von der Sternwarte in Bern. Wolff.
10. OBRAS Spostrezen Meteorologicznych. Weissego.
11. BEITRAGE zur Construction selbstregistrirender Meteorologischer Apparate. Dr. J. C. Jelinck.

Scientific Journals, Magazines, Encyclopædias, &c.

ACADEMY of Sciences, (National Memoirs.) Vol. I, 1866, and Report for 1863.
AMERICAN Academy. Memoirs of the American Academy of Arts and Sciences. New Series. Vol. I to VIII.
——— Proceedings of ditto. Vol. I to VII, part 1.
AMERICAN Philosophical Society. Proceedings. 8 v.
——— Transactions. 14 v.
NORTH American Review, 1865–'66.
AMERICAN Association for advancement of Science. 4 v.
AMERICAN Journal of Science, (Silliman.) 85 v.
ANNALS of Science. Smith. 1 v.
ARMY and Navy Journal. 3 v.
BATAVIA. Verhandelingen Van het Bataviaasch Genootschap van kunsten en Wetenschappen. 3 v.
——— Tijdschrift voor Indische Taal-Land-Volkenkunde. 6 v.
——— Natuurkundig Tijdschrift voor Nederlandische Indië. 3 v.
BERLIN. Abhandlungen der K. Akademie der Wissenschaften zu Berlin, 1804 to 1860. 42 v.
——— Histoire de l'Academie Royale des Science et des Lettres, 1745 to 1761. 25 v.
——— Nouvelles Mémoires, ditto, 1770 to 1804. 31 v.
——— Miscellanea Berolinensia. 6 v. in four.
BRITISH Association. Reports of. 32 v.
BRITANNICA Encyclopædia. 8th edition. 22 v.
BRITISH American Magazine, 1863. 1 v.
CHILE. Annales de la Universidad. 7 v.
COLBURN. U. Service Magazine, 1865 and 1866. 2 v.
COMPTES Rendus hebdomadaires des Séances de L'Academie des Sciences, 1835 to 1865. 60 v.
COPPEE, (H.) U. S. Service Magazine, 1865, 1866.
DANZIG. Neueste Schriften der Naturforschenden Gesellschaft in Danzig. 5 v.
DUBLIN Quarterly Journal of Science. 2 v. 1865–'66.
EXPLORING Expedition, U. S. 1838 to 1842. 8 v.
FRANKLIN Institute Journal. 6 v.
HAARLEM Natuurkundige Verhandelingen van de Hollandische Maatschappij der Wetenschappen te Haarlem. 15 v.
LEIPSIG Berichte über die Verhandlungen der K. Sachsischen Gesellschaft der Wissenschaften zu Leipsig. 9 v.
LONDON, Edinburgh, and Dublin Philosophical Magazine, from 1846 to 1866. 37 v.
LONDON Journal of the Statistical Society, 1865 to 1866.
——— Penny Cyclopædia of the Society for the Diffusion of Useful Knowledge, 1833. 24 v.
——— Royal Society. Philosophical Transactions from 1665 to 1866. 92 v.
——— Quarterly Journal of Pure and Applied Mathematics.
——— Proceedings of the Royal Society. 8 v.
——— Proceedings of the Royal Geographical Society. 2 v.

PHYSICS, ETC.

LONDON Journal of the Royal Geographical Society. 20 v.
——— Photographic and Fine Art Journal. 2 v.
MADRID. Memorias de la Real Academia de Ciencias exactas Fiscias y naturales.
MANCHESTER. Memoirs of the Literary and Philosophical Society. 17 v.
MOSCOW. Bulletin de la Societé Imperiale des Naturalistes. 18 v.
——— Nouveaux Mémoires de la Société des Naturalistes. 3 v.
MÜNCHEN. Sitzungsberichte der K. bayerichen Akademie der Wissenschaften. 9 v.
——— Gelehrte Anzeigen, 1855 to 1860. 10 v.
NEW YORK. Reports of the Regents of the University. 7 v.
NICHOL. A Cyclopædia of the Physical Sciences. J. P. Nichol, LL.D. 1857.
PARIS. Bulletin de la Société d'Acclimation Impériale Zoologique. 4 v.
PIERER'S Universal Lexicon. 18 v.
POGGENDORFF, (J. C.) Annalen der Physik und Chemie. Leipsig. Bd. 1 to 128, and index.
SAILORS' Magazine, 1865, 1866. 2 v.
SMITHSONIAN Institution. Contributions to Knowledge. 14 v.
——— Miscellaneous Collections. 4 v.
ST. PETERSBURG. Verhandlungen der Russisch-Kaiserlichen Mineralogischen Gesellschaft. 2 v.
——— Bulletin de l'Académie Impériale de Sciences de St. Petersbourg. 6 v.
——— Compte Rendu Annuel. A. T. Kuppfer. 1860 to 1866.
WIEN. Denkschriften der K. Akademischen der Wissenschaften. 6 v.
——— Sitzungsberichte der Mathematisch-Naturwissenschaftlichen. Classe. 52 v.
UPSALA. Nova Acta Regiæ Societatis Upsala.

PHYSICS, CHEMISTRY, AND NATURAL HISTORY.

I. Treatises. Researches in Physics.

ADAMS, (G.) Essays on Electricity. London, 1787.
DE LA BECHE, (Sir H. T.) The Geological Observer. London, 1853.
BARTLETT, (Prof. W. H. C.) Elementary Treatise on Optics. New York, 1839.
BENNETT, (Rev. A., F. R. S.) New Experiments on Electricity. 1789.
BIOT ET ARAGO. Mémoire sur les affinités des Corps pour la lumière. Paris, 1806.
BREWSTER, (Sir David.) A Treatise on Optics.
BRIDGEWATER Treatises. 8 v.
COUES, (S. E.) Studies of the Earth. Washington, 1860.
COULOMB, (M.) Mémoires sur l'electricité et le Magnétisme. Paris, 1785.
DAGUIN, (P. A.) Traité élémentaire de Physique.
DARWIN, (C.) Geological Observations. London, 1851.
DAVY, (Sir H.) Six Discourses before the Royal Society of London.
DUFRENOY AND BEAUMONT. Explication de la Carte Géologique de la France. Paris, 1848.
EULER, (L.) Mechanik oder analytische Darstellung der Wissenschaft von den Bewegung. Wolfers. Greiswald, 1848.
FISHER, (T.) The Dial of the Seasons. London.
GREGORY, (O., LL.D.) Mechanics: Theoretical, practical, and descriptive. 2 v. 1826.
HUNT, (R.) A Manual of Photography. London, 1853.
ISHERWOOD, (B. F., Chief Engineer U. S. N.) Researches in Steam Engineering. 2 v. 1863.
JAMIESON, (A.) Mechanics of Fluids for practical men. London, 1837.
LEA, (J.) Contributions to Geology. Philadelphia, 1833.
LEE, (Chas. A., M. D.) Elements of Geology for popular use. New York.
LYELL, (Sir Chas.) The Principles of Geology. 1859.

MAURY, (M. F., Lieutenant U. S. N.) The Physical Geography of the Sea. New York, 1855.
MCGAULEY, (Rev. J.W.) Lectures on Natural Philosophy. 2 v. Dublin, 1850.
MÜLLER, (Dr. Joh.) Bericht über die neusten Fortschritte der Physik. Braunschweig, 1849.
NATIONAL INSTITUTE. Bulletin of Proceedings for 1851.
PIEHL, (Lieut.) Den Electro Magnetiske Telegraph Amerikanste. Copenhagen, 1853.
QUETELET, (A.) Recueil d'Observations sur différentes sujets des Sciences Physiques. 1842.
RANKINE, (W. J. M.) A Manual of Applied Mechanics. London and Glasgow, 1858.
——— A Manual of the Steam Engine. London, 1859.
RENWICK, (J., LL.D.) Lardner on the Steam Engine, with notes, &c. Philadelphia.
DE LA RIVE, (A.) A Treatise on Electricity in theory and practice. London. 2 v. 1853.
RUSSELL, (J. S.) The nature, properties, and application of Steam. Edinburgh, 1841.
SOMERVILLE, (Mrs. Mary.) The connection of the Physical Sciences. New York, 1846.
THOMASSY, (R.) Géologie pratique de la Louisiane. 1860.
VAIL, (A.) The American Electro Magnetic Telegraph. 1845.
VAN SWINDEN, (J. H.) Recueil de Mémoires sur l'Analogie d'électricité et du Magnétisme. La Haye, 1784. 3 v.
WEISBACH, (Prof. Julius.) Principles of the Mechanics of Machinery and Engineering. London, 1847. 2 v.
WHEWELL, (Rev. W., M. A.) The History of the Inductive Sciences. 3 v. London, 1837.
ZAMBONI, (G.) Sull' Elettromotore perpetuo istruzione teorico-pratica. Verona, 1843.

III. Miscellaneous.

COAST SURVEY U. S. Reports of the Superintendent from 1847 to 1863. 16 v.
ENGINEER DEPARTMENT U. S. A. Papers on Practical Engineering, published by the Engineer Department. 1863.
HERSCHEL, (Sir J. F. W.) Admiralty Manual of Scientific Inquiry.
MAHAN, (D. H., Prof. U. S. Military Academy, West Point.) Elementary course in Civil Engineering. New York, 1846.
MAUNDER, (S.) Scientific and Literary Treasury. London, 1864.
RODMAN, (Captain T. J., U. S. A.) Reports of Experiments on the properties of Metals for Cannon.
TIMBS, (John, F. A. S.) The Year Book of Facts. 1862, '63, '64, '65, '66. 5 v. London.
TOTTEN, (General J. G.) Report to Secretary of War on heavy ordnance.
WELLS, (D. A.) The Annual of Scientific Discovery. 1853.
SECRETARY OF THE TREASURY. Report on Sugar and Hydrometers.

Bound Volumes of Miscellaneous Pamphlets.

VOLUME I, (miscellaneous,) containing—

1. ANNUAL Report of the Trustees of the Museum of Comp. Zoölogy. 1864.
2. PROCEEDINGS of Sixth Annual Meeting of the Association of American Geologists and Naturalists. 1845.
3. CALIFORNIA Academy of Natural Sciences. Circular. 1853.
4. DIRECTIONS for Preparing Specimens in Natural History.
5. SIXTH Annual Report of Regents of the University of the State of New York. 1853.
6. AMERICAN Geology. Marcou.
7. PALÆONTOLOGY. Survey in California. W. P. Blake.
8. THE Rocks of Kansas.
9. GEOLOGICAL Report, Southwestern Branch Pacific Railroad.

10. ANNUAL Address before Harvard Natural History Society. Hill. 1853.
11. HISTORY and Description of the Skeleton of a new Sperm Whale.

VOLUME II, containing—

1. RESEARCHES on Solar Physics. De la Rue, Stewart & Loewy.
2. SUR la différence de Longitude des Observatoires de Bruxelles et de Berlin determinée, en 1857, par des Signaux Galvaniques.
3. VIER von de l'Isle Beobachtete Plejaden-Bedeckungen. Linseer.
4. BEITRAG zur festellung des Verhältnisses von Keppler zu Wallenstein. Otto Struve. St. Petersbourg.
5. ÜBER die Strahlenbrechung in der Atmosphäre. J. J. Baeyer.
6. DIE Zeitbestimmung Vermittelst des Tragbaren Durchgangs instruments im Verticale des Polarsterns. W. Dollen.
7. OCCULTATIONS in the United States in 1852. Downes.
8. PULKOWAER Beobachtungen des Hellen Cometen von 1862. Winnecke.
9. SUR l'Expression du Rapport, qui (Abstraction faite de la Chaleur Solaire) existe en vertu de la Chaleur *d'Origine*, entre le refroidissement de la masse totale du Globe Terrestre et le refroidissemen de la Surface. Plana. 1863.

VOLUME III, containing—

Om den geographiske Beskaffenhed af de danske Handelsdistrikter i Nordogöland.
Report on the adjudication of the Copley, Rumford and Royal Medals.
Program der eiden polytechnischen Schule. Zurich.
Paralléle entre les dépôts Siluriens de Bohême et de Scandinavie.
Notes on the Geology of the Eldon hills.
Recherches sur la quantité d'ether contenul dans les liquides.
Circular in relation to the Astronomical Expedition to Chile.

VOLUME IV, containing—

1. RICERCHE sulle leggi della Capillarita-Zantedeschi.
2. KLEINE Schriften der Naturforschenden Gesellschaft in Emden. 1858.
3. CORRESPONDENZBLATT des Naturforschenden Vereins zu Riga.
4. ABHANDLUNGEN der Naturhistorischen Gesellschaft in Nürnberg.

Chemistry.

DALTON, (J.) A new System of Chemical Philosophy. 2 v. London, 1842.
HARDWICKE, (T. F.) A Manual of Photographic Chemistry. London, 1857.
HENRY, (W.) Elements of Experimental Chemistry. Philad., 1817.
REGNAULT, (M. V.) Elements of Chemistry for the use of Colleges. Philadelphia, 1853. 2 v.
YOUMANS, (E. L.) A Class-book of Chemistry. New York, 1866.

Natural History.

BAILEY, (Prof. J. W.) Microscopical Examination of Soundings by U. S. Coast Survey.
COURS Élémentaire d'Histoire Naturelle. 2 v. 1848.
CUVIER'S Animal Kingdom. London, 1860.
DANA, (J. D.) A System of Mineralogy. New York and London, 1850.
ENCYCLOPÆDIA of Natural History.
GOSSE, (P. Henry.) The British Sea Anemones. London, 1860.
HUXLEY, (T. H.) The Oceanic Hydrozoa. Published by the Royal Society. London, 1859.
LOUDON, (J. C.) Encyclopædia of Plants. London, 1841.
SMITH, (J. E.) Introduction to Physiological and Systematic Botany. London, 1814.

HISTORY, GEOGRAPHY, VOYAGES, AND TRAVELS.

AMERICAN State Papers, 1789–1818. 12 v.
UNITED States State Papers, 1806 to 1815. 4 v.

HISTORY, ETC.

ALGEMEEN Verslag en Beantwoording van Vraagpunten omtrent het Zeewesen van der Staat. 1852.
ARCTIC Expeditions, 1827–1851.
BARROW, (Sir John.) Voyages of Discovery and Research within the Arctic Regions from 1818 to 1846.
BERTHOUD, (F.) Voyage fait par ordre du Roi, (1768–'69,) pour éprouver les horloges Marines.
BERTUCH, (Dr. F. J.) Neue Allgemeine Geographische Ephemeriden. 1800 to 1831. 31 v.
BOMBAY Geological Society Transactions. 7 v.
BRAZIL. Revista do Instituto Historico e Geografico do Brazil. 13 v.
——— Nuove Orbe Serafico Brazilico-Jaboatam. Rio Janeiro, 1858.
BOTTA, (C.) History of the War of Independence of the United States. Boston, 1826.
BLUNT, (J.) The Shipmasters' Assistant and Commercial Digest. New York, 1851.
LA CABEZA. Relacion del Voyage de la Fregata Santa Maria de la Cabeza. Madrid, 1788.
CADELL. A Journey into Carniola, Italy, and France. 2 v. 1817–'18.
CASTELNAU, (F.) Expédition dans les parties Centrales de L'Amerique du Sud. 1843–'47. 6 v.
COLLECTION of Voyages. London, 1711.
COOK, (J.) Voyage dans l'Hemisphère Australe. Paris, 1778.
CHINESE Geography. Europe and Asia.
DARBY, (William.) Universal Gazetteer, 1843.
DUESBERG, (Marcus.) Geographie Anciénne des Etats Barbaresques. Paris, 1842.
ENCYCLOPÆDIA of Geography. 2 v. 1845.
EXPLORING Expedition, (U. S.,) under Captain Charles Wilkes, U. S. N. 6 v.
FOOTE, (Com. A. H., U. S. N.) Africa and the American Flag. 1854.
FŒTTERLE, (F.) Mittheilungen der K. K. Geog. Gesellschaft. Wien, 1857 to 1864. 5 v.
FORSTER, (J. R.) Observations made during a Voyage Round the World. London, 1778.
FRANKLIN, (Sir J.) Narrative of a Journey to the Shores of the Polar Sea, 1819–'22. 2 v. London, 1824.
GRAHAM, (Lieutenant Colonel, U. S. A.) Report on the boundary line between the United States and Mexico. 1852.
GIBBON, (E.) Decline and Fall of the Roman Empire. 4 v.
HASKELL, (D.) Gazetteer of the United States. 1848.
HAWKESWORTH, (J.) Relation des Voyages dans l'Hemisphère Méridional. Paris, 1774.
LA HARPE. Histoire des Voyages. Tomes 32.
HOMANS, (J. Smith.) A Cyclopædia of Commerce and Commercial Navigation. New York, 1858. 2 v.
HUME, (D.) History of England. 4 v.
KEMPFER, (J.) History of Japan. 1728. 2 v.
KENNEDY, (J. C. G.) History and Statistics of the State of Maryland. 1852.
LEE, (Lieutenant S. P., U. S. N.) Report and Charts of the Cruise of the U. S. Brig Dolphin. 1854.
MANUAL of Geographical Science.
MCCULLOUGH, (J. R.) A Dictionary of Commerce and Commercial Navigation. Philadelphia, 1854. 2 v.
DE LESSEPS, (F.) Percement de l'Isthme de Suez. 1855.
LINGARD, (J., D.D.) The History of England. 12 v.
LIPPINCOTT, (J. B.) Pronouncing Gazetteer of the World. By Thomas & Baldwin. 1864.
LORENZ, (Dr. J. R.) Physicalische Verhältnisse und Vertheilung der Organismen im Quarnerischen Golfe. Wien, 1863.
LYNCH, (Lieutenant W. F., U. S. N.) Official Report of Expedition to the Dead Sea. 1852.
MACKAY, (A.) Manual of Geography. Edinburgh, 1841.
MALTE-BRUN and Balbi. System of Geography.
MARSHALL, (John.) Life of Washington. 2 v.

NAVIGATION, ETC

MITFORD, (W.) History of Greece. 8 v.
NEW York Historical Society. Proceedings, 1847–'48.
NOVARA Fregatte. Reise de Osterreichischen Fregatte Novara um die Erde 1857–'59. Wein, 1861. 3 v.
PACIFIC Railroad. Report relative to Railroad. 18 v.
PETERMANN, (Dr.) Mittheilungen aus Justus Perthes' Geographischer Anstalt. 9 vols. 1857–'65.
PORTER, (Com. D., U. S. N.) Journal of the Essex.
RAMSAY, (D.) Universal History. 12 v.
Reise til Gronland. 1832.
ROYAL Geographical Society. Journal. 22 v.
RUSSELL, (W., LL.D.) History of Modern Europe. 6 v.
SCHMIDT, (J. J. Julius.) Beitrage zur physikalischen Geographie von Griechland.
SMYTH, (W. H., Rear-Admiral R. N.) The Mediterranean.
SPARKS, (Jared.) The Writings of General George Washington. 12 v.
ROLLIN, (C.) Ancient History. 8 v.
STEPHENS, (J. L.) Incidents of Travel in Central America, Chiapas, and Yucatan. 1842. 2 v.
LE VAILLANT, (M.) Voyage dans l'intèrieur de l'Afrique. Paris, 1780.

Bound Volumes of Pamphlets.

VOLUME I, containing—

1. GEOGRAPHY and Resources of Arizona and Sonora.
2. THE Polar Exploring Expedition.
3. ACCESS to an Open Polar Sea. Dr. E. K. Kane.
4 and 5. GRINNELL Land. P. Force, Esq.
6. DESCRIPTIVE Catalogue of Hakluyt's Maps.
7. THE Relations of Physical Geography to Agriculture.
8. NOTICE sur la Terminologie Gèographique.
9. SOUTHERN Pacific Railroad Documents.
10. REPORTS of United States Topographical Engineer for 1858–'59.

VOLUME II, containing—

1. NIVELLEMENT du Grand St. Bernard.
2. ESQUISSE d'une Classification des Chaines de Montagnes d'une Partie de l'Amerique du Nord. Marcou.
3. ÉTUDES sur les Montagnes et les Cavernes de la Chine.
4. RECHERCHES sur la hauteur de quelques points du Territoire Chinoise.
5 and 6. THE Sources of the Nile.
7. L'EXTENSION des Côtes Orientales de Chine.
8. ABADDIS'S Journey to Kaffa.
9. ANNUAL Report of the State Historical Society of Wisconsin.
10. PORTO Canale di Pesaro.
11. MEMOIRE sur le Soudan.
12. EUROPEAN and Indian Junction Telegraph.
13. INDIAN Irrigation.
14. SYRIAN Exploration.
15. TELEGRAPHIC Submarine Lines.
16. THE United States Coast Survey; its Abuses, &c.
17. UPPER California.
18. POLAR Exploring Expedition, 1861.

NAVIGATION.—LIGHT-HOUSES.

BOWDITCH, (N., LL.D.) The New American Practical Navigator.
MAURY, (M. F.) A New Theoretical and Practical Treatise on Navigation.
——— Explanations and Sailing Directions to accompany Wind and Current Charts. 1851–'55, 1858–'59.
MOORE. Navigation.
PAGET, (L.) La Latitude par les hauteurs hors du Méridien.
SUMNER, (Captain Thomas H.) A New and Accurate Method of Finding a Ship's Position at Sea.

STEVENSON, (A.) Rudimentary Treatise on Light-Houses. London, 1850.
REPORT of Light-House Board.
INSTRUCTIONS to Light-House Keepers.

CHRONOMETERS, CLOCKS AND WATCHES.—INSTRUMENTS.

BERTHOUD, (F.) Essai sur l'horlogerie. 1786.
BIANCHI, (S.) Intorno una Ordinazione di Archetipi e Instromenti Metuci. Modena, 1851.
BION, (N.) Traité de la Construction et des Principaux Usages des Instruments de Mathématiques.
BREWSTER, (D.) Treatise upon the Microscope.
COMMISSIONERS of Longitude. The Principles of Mr. Harrison's Timekeeper. London, 1777.
EIFFE, (J. S.) Account of Improvement in Chronometers. London, 1842.
GIVRY, (A. P.) Mémoir sur l'Emploi des Chronomètres à la Mer.
HEATHER, (J. F.) A treatise on Mathematical Instruments. London, 1866.
HANNOVER, (A., M. D.) The Construction and Use of the Microscope. Edinburgh, 1853.
JÜRGENSEN, (U.) Mémoirs sur l'horlogerie Exacte. 1832.
LEPAUTE, (J. A.) Traité d'horlogerie. 1767.
LIEUSSON, (A.) Recherches sur les Variations de la Marche des Pendules et des Chronomètres.
DE LA MARCHE Recherches Chronomètriques. Paris, 1859.
MOUCHER, (E.) Observations Chronomètriques. Paris, 1855.
QUECKETT. Practical Treatise on the Microscope. London, 1832.
RAMSDEN, (J.) Description of an Engine for Dividing Mathematical Instruments. London, 1778.
REID, (Thos.) Treatise on Clock and Watch Making. Phila., 1832.
ROBERT, (H.) Comparaison des Chronomètres à barillet denté avec celles à fusée.
SIMMS, (F. W.) Treatise on Mathematical Instruments. 1849.

LAW AND PUBLIC DOCUMENTS.

ATTORNEY GENERAL, (U. S.) Opinions. 5 v.
CHINESE Commercial Code. S. W. Williams.
COMMERCIAL Relations. Reports of Secretary of State. 1854, 1856 to 1859, and 1863–1864. 6 v.
COMMISSIONER of Agriculture. Reports 1852, '56, '63, '64.
COMMISSIONER of General Land Office. Report 1851.
COMMISSIONER of Patent Office. Reports. 13 v.
CONGRESSIONAL and Executive Documents. 289 v.
CONGRESSIONAL Globe, 1865. 2 v.
DIPLOMATIC Correspondence, (U. S.) 1863 and 1864.
JACOBSEN, (F. K.) Sea Laws.
KENT, (Jas., LL.D.) Commentaries on American Law. 4 v.
TENNESSEE Code of Law and Journal Senate. 1851.
VALLAT, (C.) Guide Pratique des Consulats.
VATTEL, (E.) Law of Nations.
WHEATON, (Henry.) Elements of International Law.
UNITED STATES Statutes at Large. 13 v.
UNITED STATES Official Register. 19 v., to 1865.
REPORTS on Weights and Measures. Bache and Taylor

LANGUAGE.

GRAMMAR and Dictionary of the Dakota Language. Rev. S. R. Riggs. Published by the Smithsonian Institution.
POCKET Dictionary of the English and Danish Languages.

A NEW pocket Dictionary of the Dutch and English Languages. W. Erninek.
COMPLETE Dictionary of the German and English Languages. J. G. Flügel. 2 v.
FRENCH and English Dictionary. Spiers and Surenne.
DICTIONARY of the English and Italian Languages. Baretti. 2 v.
DICTIONARY of the English Language. Noah Webster, LL.D. 4to.
——— J. E. Worcester, LL.D. 4to.
LATIN and English Dictionary. Andrews.
DICTIONARY of the Portuguese and English Languages. A. Vièyra. London, 1827.
GRAMMAR of the Portuguese Language. A. Vièyra.
NEW Pocket Dictionary of the English and Russian Languages. Leipsic.
NOUVEAU Dictionaire Portatif Russe-Français et Français-Russe. Schmidt.
PRONOUNCING Dictionary of the Spanish and English Languages. Velasquez.
DICCIONARIO Marino Inglés-Español.
GRAMMAR of the Spanish Language, with Practical Exercises. Josse and Sales.
SCHWÄBISCH-AUGSBURGISCHES Wörterbuch Burlinger. München, 1864.

NAVAL.

ADMIRALTY LIST. 1861–'64.
ARMY AND NAVY Chronicle. 1836–'40.
——— Military and Naval Magazine. 4 v.
ANNUAIRE de la Marine et des Colonies. 1865–'66. 2 v.
COOPER, (J. F.) The History of the Navy U. S. 2 v.
EKINS, (C., Rear-Admiral British Navy.) The Naval Battles of Great Britain.
EMMONS, (Lieut. G. F.) The Navy of the United States from 1775 to 1853.
HICKMAN, (W., R. N.) Naval Courts-Martial.
JAMES, (W.) The Naval History of Great Britain from 1793 to the Accession of George IV. 6 v.
MECHLIN AND WINDER. General Navy Register and Laws. 1798 to 1848.
NAVY (U. S.) Register. 1836, 1852, and 1855 to 1865.
——— Naval Laws. 1841, '45, '65.
——— Regulations. 1865.
SECRETARY of the Navy Reports. 1863, '64, '65.
BATAILLES de Terre et de Mèr.
HISTOIRE de la Marine Française. 1833.

BIBLIOGRAPHY.

ADMIRALTY. Catalogue of the books of the Admiralty Library.
ASTOR LIBRARY (N. Y.) Catalogue. 1847. 4 v.
BALDOCK, (R.) Catalogue of miscellaneous books. London, 1842.
BOSSANGE, (H.) Catalogue de Livres Français. Paris, 1850. 3 v.
BRUSSELS. Catalogue des Livres de la Bibliothéque de l'Observatoire Royale de Bruxelles.
CONGRESS, (U. S.) Catalogue of the Library. 1861, 1864–'65.
KONIGSBERG. Systematisches Verzeichnisse K. Univ. Sternwarte. 1852.
MUNICH. Codices Manuscripti Bib. Reg. Monacensis. 1858.
NAVAL ACADEMY, (U. S.) Catalogue of Library.
NEW YORK State Library Catalogue.
PULKOWA. Catalogus Librorum Speculæ Pulcovensis. 3 v.
TENNESSEE. Catalogue of the Tennessee State Library. 1855.
RHEES. Memoir of American Libraries, Societies, and Institutions 1859.

ERRATA.

VOLUME OF 1864.

Page.	Column.	No.	For—	Read—
21	9	33	52. 3s.	53. 3s.
21	15	33	52. 32	53. 32.
21	18	33	19. 59	20. 59.
45	15	11	35. 61	34. 61.
45	18	11	4. 64	3. 64.
49	19	18	12. 01	15. 16.
50	19	44	14. 26	14. 80.
51	18	17	26. 31	25. 31.
111	11	34 }	Transfer remark printed opposite 34 to 38.	
111	11	38 }		
158	7	53	157° 24′ 57″.2	157° 14′ 57″.2.
434	7	2021	28° 34′ 22″.3	28° 29′ 22″.8.
160	14	19	37*r*.779	36*r*.779.
161	11	19	Dele "1 rev. less than Argelander."	
433	7	1960	28° 58′ 49″.8	20° 59′ 21″.1.
437	6	2260	— 33° 38′ 48″.2	— 33° 39′ 50″.2.
403	2	29	Weisse 302	45 Piscium.
403	7	17	26° 40′	36° 40′.
406	7	226	— 12° 55′	+ 12° 55′.
406	7	227	+ 32° 59′ 44″.56	— 32° 59′ 44″.56.
408	7	351	+ 23° 22′ 6″.2	+ 23° 32′ 6″.2.
409	7	406	30° 36′	30° 26′.
409	7	416	— 31° 27′	— 31° 37′.
411	7	573	22° 20′	21° 3′.
412	7	588	— 17° 51′	— 27° 47′.
413	4	653	6° 24′ 13″.49	6° 25′ 13″.74.
434	4	2047	20	40.
435	7	2102	75° 16′ 0″.5	75° 16′ 0″.7.
435	7	2131	23° 24′	21° 15′.
435	7	2132	21° 15′	30° 13′.
437	7	2241	+ 8° 50′	— 0° 53′.
437	7	2261	24″.1	24″.2.
437	7	2264	20° 51′ 32″.98	20° 31′ 32″.98.
438	7	2317	36° 20′	25° 25′.
438	4	2328	21° 14′ 44″.75	21° 14′ 14″.75.
438	7	2328	23° 13′	23° 18′.

VOLUME OF 1862.

605	6	135	2s.882	2s.790.
605	7	135	— 26° 29′	— 36° 39′.
608	2	343	Anonymous	Weisse 2, 111.
608	4	343	5° 5′ 7″.49	5° 5′ 17″.49.
612	6	587	2s.510	2s.387.
612	7	587	— 25° 22′	— 29° 59′.

VOLUME OF 1863.

36	. .	last line.	April 3	April 13.
125	1	17		Insert Y.
126	1	4	R.	Y.
150	6	36	63° 45′ 61″.0	63° 44′ 61″.0.
341	1	line 2	— 24° 51′ 46″.27	— 24° 50′ 46″.2.
341	1	line 13	— 24° 55′ 21″.42	— 24° 54′ 21″.34.
169	8	48	— 26° 16′ 17″.68	— 36° 16′ 17″.68.
169	9	48	31.66	28.36.
394	6	733	77s.898	77s.806.
394	7	733	89° 0′ 21″.4	89° 1′ 22″.0.
345	2	. . .		Omit Lacaille 8318.
384	5	101	3	2.
388	4	361	3° 2′ 28″.75	3° 1′ 28″.75.
389	2	429	1190	1195.
389	4	432	3° 43′ 43″.28	3° 43′ 43″.38.
390	2	497	Lacaille 1483	Lalande 8577.
390	2	498	1419	1491.
391	4	532	4° 48′ 7″.44	4° 48′ 27.″48.
394	7	744	+ 11.1	+ 10.53.
397	6	912	2s.606	2s.455.
403	2	1332	9 Centauri	*g* Centauri.
407	6	1591	3.595	3.752.